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SCIENTIFIC INFORMATION REPORT

CHINESE SCIENCE

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Summary No 5565

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WARNING

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SCIENTIFIC INFORMATION REPORT
Chinese Science (46)

This serial report contains unevaluated information prepared as abstracts, extracts, summaries, and translations from recent publications of the Sino-Soviet Bloc. Individual items are unclassified unless otherwise indicated.

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Biological Sciences

CHANG Shu-cheng (1728/2885/2398)
FANG Yi-ch'eng (2455/0001/3397)
YANG Lien-wan (2799/1670/1238)

"An Enzymatic Study of Carbohydrate Metabolism in Geotrichum Candidum Link"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 403-411

Text of English Abstract: All the key enzymes, but phosphohexokinase of the EMP and the pentose phosphate cycle, were found in cell-free extracts of Geotrichum candidum, and the activities of these enzymes were substantially equal in the extracts from xylose-grown and glucose-grown cultures. The respiration experiments using glucose-C^{14} showed that the relative importance of different pathways in these two cultures was also equal.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, Nov 63, pp 403-411)

The authors express thanks to MOU Sung-p'eng (4924/7313/1756) and JEN Yung-o (0117/3057/1230) for participating in the technical work and to the botanical gardens of the Institute of Botany, Chinese Academy of Sciences, for supplying the Sedum album L.

This paper was received for publication on 30 June 1962.

Authors' Affiliation: All of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

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HU Ping-sheng (5170/3521/8508)
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LIU Shu-chung (0491/2885/1813)
CHANG Fu-hui (1728/4395/1798)
CH'EN Yu-ch'ing (7115/3558/3237)
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CH'EN Hai-shen (7115/3189/3234)
LIANG Chih-ch'uan (2733/2784/2938)

"Preparation and Characteristics of Soluble Ribonucleic Acid From Escherichia Coli"

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(Continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 419-424.)

It contains only adenosine as the terminal nucleoside and from the content of which, the chain is estimated to consist of 78 nucleotides. Its ability to accept S^{35}-methionine is rather high as compared with that reported in the literature.

The chemical and physicochemical characteristics of the product, such as protein, polysaccharide, deoxyribonucleic acid and nucleo-base contents, specific rotation, ultraviolet absorption spectrum, and atom phosphorus extinction coefficient, have also been determined.

Ultrahigh-speed centrifugal analyses were done by LIU Ch'ung-pai (0491/1504/2672) of the Department of Virology, Chinese Academy of Medical Sciences.

This paper was received for publication on 10 May 1963.

Authors' Affiliation: All of Department of Biochemistry, Institute of Experimental Medicine, Chinese Academy of Medical Sciences, Peiping.

LU Tzu-hsien (7627/1311/6343)

"Linear Polymerization of the S-Sulphonate of the B-Chain of Insulin: IV. The Influence of Some Organic Substances"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 434-440

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Optical rotatory properties of the B-chain in mixed solvents with varying amounts of dioxane were measured. The relationship between the conformation and the polymerizability of the B-chain was discussed.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 434-440)

The work was completed under the direction of TS'AO T'ien-ch'in (2580/1131/2953).

This paper was received for publication on 25 May 1963.

Author's Affiliation: Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

HSU Ken-chun (6079/2704/0193)
TSOU Ch'eng-lu (6760/2110/7627)

"Kinetics of Inactivation and Reactivation of Trypsin in Urea Solutions"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 450-458

Excerpts of English Abstract: The ultraviolet difference spectrum of urea-denatured trypsin against trypsin showed three negative peaks at 292, 286, and 236 mμ and a flat maximum in the 250-270 mμ region. In the course of inactivation in urea and that of reactivation of the denatured enzyme, changes in enzymatic activity were accompanied by changes in ultraviolet absorption spectra. During denaturation, the rate of decrease of absorption at 236 mμ was faster than that of the decrease in activity, but upon dilution of a solution of trypsin in concentrated urea, the recovery of activity was faster than the increase in absorption at 236 mμ.

The thermodynamic parameters of the activation processes of the above changes have also been determined and their significance discussed.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 450-458)

The authors express thanks to LU Tzu-hsien (7627/1311/6343) for freeze-drying the Trypsin.

This paper was received for publication on 9 July 1963.

Authors' Affiliation: Both of Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

ABSTRACTS

Biological Sciences

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FANG Yi-ch'eng (2455/0001/3397)
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"An Enzymatic Study of Carbohydrate Metabolism in Geotrichum Candidum Link"

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The authors express thanks to MOU Sung-p'eng (4924/7313/1756) and JEN Yung-o (0117/3057/1230) for participating in the technical work and to the botanical gardens of the Institute of Botany, Chinese Academy of Sciences, for supplying the Sedum album L.

This paper was received for publication on 30 June 1962.

Authors' Affiliation: All of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

CH'IEN Yuan-jen (6929/0337/0117)
CHANG Yu-shang (1728/0645/1424)

"Construction of a Light-Scattering Apparatus for the Study of the Molecular Weight and Dimensions of Proteins"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 412-417

Text of English Abstract: A simplified Goring light-scattering apparatus with good sensitivity, symmetry and stability was described.

The molecular weights (from 11,800 to 38.6 million) of four standard proteins, insulin, ovalbumin, human serum albumin, and tobacco mosaic virus, and the molecular shape of the last-mentioned virus were determined with the present instrument, yielding results in good agreement with those reported in the literature. The instrument has also been satisfactorily employed in the investigation of other protein systems currently under study in this laboratory.

The work was completed under the direction of TS'AO T'ien-ch'in (2580/1131/2953) of the Institute of Biochemistry, Chinese Academy of Sciences,

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 412-417)

Shanghai. The authors express thanks to LI Ts'ai-hung (2621/2088/3163), TAI Hai-liang (2071/3189/2733), SHENG Lin-sheng (4141/2651/3932), LI Hui-ming (2621/1920/6900), and WU Wen-yu (0702/2429/3768) for participating in the work.

This paper was received for publication on 25 April 1963.

Authors' Affiliation: Both of Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

WU Kuan-yun (0702/0385/5366)
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"Preparation and Characteristics of Soluble Ribonucleic Acid From Escherichia Coli"

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(Continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 419-424.)

It contains only adenosine as the terminal nucleoside and from the content of which, the chain is estimated to consist of 78 nucleotides. Its ability to accept S^{35}-methionine is rather high as compared with that reported in the literature.

The chemical and physicochemical characteristics of the product, such as protein, polysaccharide, deoxyribonucleic acid and nucleo-base contents, specific rotation, ultraviolet absorption spectrum, and atom phosphorus extinction coefficient, have also been determined.

Ultrahigh-speed centrifugal analyses were done by LIU Ch'ung-pai (0491/1504/2672) of the Department of Virology, Chinese Academy of Medical Sciences.

This paper was received for publication on 10 May 1963.

Authors' Affiliation: All of Department of Biochemistry, Institute of Experimental Medicine, Chinese Academy of Medical Sciences, Peiping.

CH'EN Ch'iung-hua (7115/8825/5478)
LI Tien-tung (2621/7193/2639)
SU Hsueh-liang (5685/1331/5328)
WANG Chia-i (3769/0857/0308)

"Studies on Chinese Rhubarb: 7. Mechanism of Antibiotic Action of Anthraquinone Derivatives (1) Effects on the Respiration of S. Aureus"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 426-433

Text of English Abstract: The respiration of S. aureus in ordinary broth is strongly inhibited by emodin, aloe-emodin, and rhein of minimal growth-inhibitory concentration. The percentages of inhibition are 83, 75, and 42, respectively.

Emodin also inhibits the oxidation and dehydrogenation of most amino acids (with the exception of cystine and cysteine), glucose, and the intermediate products of carbohydrates metabolism in S. aureus. In the case of the oxidation of glutamate and arginine, the percentages of inhibition range as high as 82 to 85.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 426-433)

Riboflavin, nicotinic acid, and thiol-compounds, as cysteine and glutathione, exhibit antagonistic activity to the action of emodin.

From the present studies, it seems that the anthraquinone derivatives interfere with the nicotinamide adenine dinucleotide, flavoprotein, and the SH-requiring enzyme systems.

The authors express thanks to TU Hsueh-fang (2629/1331/5364) of the Biochemistry Teaching and Research Section, Tientsin Medical College, for participating in the technical work.

This paper was received for publication on 13 May 1963.

Authors' Affiliation: All of Biochemistry Teaching and Research Section, Tientsin Medical College; LI, associated with Hopeh Provincial Academy of Medical Sciences; WANG, specializing in biochemistry, graduated from Tientsin Medical College in 1962.

LU Tzu-hsien (7627/1311/6343)

"Linear Polymerization of the S-Sulphonate of the B-Chain of Insulin: IV. The Influence of Some Organic Substances"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 434-440

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Optical rotatory properties of the B-chain in mixed solvents with varying amounts of dioxane were measured. The relationship between the conformation and the polymerizability of the B-chain was discussed.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 434-440)

The work was completed under the direction of TS'AO T'ien-ch'in (2580/1131/2953).

This paper was received for publication on 25 May 1963.

Author's Affiliation: Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

CH'EN Ch'ang-ch'ing (7115/1603/1987)
HUANG Wei-te (7806/1919/1795)
NIU Ching-i (6873/4842/5030)

"Synthesis of the Peptide Fragments of the B-Chain of Insulin: VI. Synthesis of a Derivative of the N-Terminal Octapeptide"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 442-448

Excerpts of English Abstract: Carbobenzoxyphenylalanylvalylasparaginylglutaminyl (N^{im}-benzyl)histidylleucyl(S-benzyl)cysteinylglycine ethyl ester (B_{1-8}), a derivative of the N-terminal octapeptide of the B-chain of insulin, has been prepared by stepwise condensation starting from (N^{im}-benzyl)histidylleucyl(S-benzyl)cysteinylglycine ethyl ester (B_{5-8b}) with the p-nithrophenyl esters of carbobenzoxyglutamine, carbobenzoxyasparagine, carbobenzoxyvaline, and carbobenzoxyphenylalanine, respectively.

The N^{im},S-dibenzylated octapeptide ethyl ester, obtained by decarbobenzoxylation of B_{1-8} with hydrogen bromide in glacial acetic acid, could be completely digested by leucineaminopeptidase.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No. 4, pp 442-448)

Elemental analyses were made by LIN Nan-ch'in (2651/0589/3830) of the Analysis Department, Institute of Biochemistry, Chinese Academy of Sciences, Shanghai. Cylindrical tomograms were made by CH'EN Yuan-ts'ung (7115/6678/5115), CHANG Kuo-ti (1728/0948/1229), and FANG Chi-k'ang (2455/4949/1660). HSU Lai-ken (1776/0171/2704) participated in the work.

The papers were received for publication on 10 June 1963.

Authors' Affiliation: All of Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

HSU Ken-chun (6079/2704/0193)
TSOU Ch'eng-lu (6760/2110/7627)

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Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 450-458

Excerpts of English Abstract: The ultraviolet difference spectrum of urea-denatured trypsin against trypsin showed three negative peaks at 292, 286, and 236 mμ and a flat maximum in the 250-270 mμ region. In the course of inactivation in urea and that of reactivation of the denatured enzyme, changes in enzymatic activity were accompanied by changes in ultraviolet absorption spectra. During denaturation, the rate of decrease of absorption at 236 mμ was faster than that of the decrease in activity, but upon dilution of a solution of trypsin in concentrated urea, the recovery of activity was faster than the increase in absorption at 236 mμ.

The thermodynamic parameters of the activation processes of the above changes have also been determined and their significance discussed.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 450-458)

The authors express thanks to LU Tzu-hsien (7627/1311/6343) for freeze-drying the Trypsin.

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Authors' Affiliation: Both of Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

CHIN Yuan-chen (6855/0337/4394)
TSOU Ch'eng-lu (6760/2110/7627)

"Relation Between the Catalase Activity of Yeast and Its Susceptibility to Radiation Damage"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta biochemica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 460-465

Text of English Abstract: It has been shown by Chantrenne that the catalase activity of Saccharomyces cerevisiae can be greatly increased by aeration. In the present study, it has been found that the susceptibility to X-radiation of yeast cells was not appreciably affected by such a treatment. Inhibition of the catalase activity of yeast cells with hydroxylamine during X-irradiation did not increase the percentage of dead cells produced. Apparently, there is no correlation between the catalase activity and the susceptibility to radiation damage of yeast cells.

The authors express thanks to SHEN Shan-chiung (3088/0810/3518) for his valuable opinions and to CHAO Te-ying (6392/1795/5391) of Shansi Medical College for participating in some of the work. CHANG K'o (1728/0344)

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, No. 3, No 4, Nov 63, pp 460-465)

and HSING Ching-ju (6717/5464/5423) participated in the technical work.

This paper was received for publication on 21 July 1963.

Authors' Affiliation: Both of Institute of Biophysics, Chinese Academy of Sciences, Peiping.

SHEN Yun-kang (3088/0336/6921)
HUNG Yu-ch'un (1347/5148/5028)

"Studies on Photophosphorylation: 8. The Development of Photophosphorylation Activity in Etiolated Wheat Seedlings Upon Illumination"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 466-473

Excerpts of English Abstract: When etiolated wheat seedlings were illuminated, chlorophyll appeared immediately, but no photophosphorylation activity could be found. After about 3 hours of greening, photophosphorylation activity began to appear, and its rate, calculated on a chlorophyll basis, increased up to 7-8 hours, after which it became more or less constant, while the chlorophyll content of the chloroplasts continued to rise.

The authors express thanks to TS'AI Chien-p'ing (5591/0494/5493), CH'IEN Yueh-ch'in (6929/2588/3830), and WANG Hsiu-fang (3076/4423/5364) for participating in the technical work.

This paper was received for publication on 29 July 1963.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 446-473

Authors' Affiliation: Both of Institute of Plant Physiology, Chinese Academy of Sciences, Shanghai.

TS'ENG I-shen (2582/0110/3947)
CHOU Kuang-yu (0719/0342/1342)

"The Metabolism of a Glutamic Acid Fermentative Bacterium-Brevibacterium Ketoglutaricum Nov. Sp. 2990-6 The Oxidation of $NADH_2$ and $NADPH_2$"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 473-482

Excerpts of English Abstract: Brevibacterium ketoglutaricum nov. sp. 2990-6 produces a large quantity of glutamic acid in a glucose and ammonium salt medium (fermentative medium I). But no glutamic acid is produced when it is cultivated in an inoculative medium (II) with peptone etc. In this paper, we have studied the oxidation of reduced nitotinamide nucleotides and the activities of related enzymes such as $NADH_2$ and $NADPH_2$ oxidases, nitotinamide nucleotide transhydrogenase, and other dehydrogenases in cells grown in different media.

The mechanism of glutamic acid fermentation by this organism has been discussed.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No. 4, pp 473-482)

The authors express thanks to CHIAO Jui-shen (3542/3843/6500) for his valuable opinions.

This paper was received for publication on 31 July 1963.

Authors' Affiliation: Both of Institute of Biochemistry, Chinese Academy of Sciences, Shanghai.

CHANG Shu-cheng (1728/2885/2398)
LI Kao-hsiang (7812/5221/5046)

"Pentose Metabolism in Geotrichum Candidum Link 2. Metabolic Pathway of L-Arabinose"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 484-489

Excerpts of English Abstract: The enzymatic reactions involved in L-arabinose metabolism were studied with cell-free extracts of L-arabinose-grown Geotrichum candidum 2.361.

L-Arabitol dehydrogenase was found only in L-arabinose-grown cells, but not in D-xylose-grown cells, and thus proved to be different from xylitol dehydrogenase; whereas in the case of Penicillum chrysogenum, a single enzyme was considered to be responsible for these two activities as reported in the literature.

This paper was received for publication on 13 August 1963.

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

YEN Lung-fei (7051/7893/7378)
SHIH Te-ch'uan (4258/1795/2938)

"The Presence of a Contractile Protein in Higher Plants"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 491-495

Excerpts of English Abstract: In the present preliminary study, it was demonstrated that a kind of contractile protein, very similar to the actomyosin of muscle, was present in the higher plants. This contractile protein can be extracted from the isolated vascular bundles of pumpkin (Curcurbita moschata), tobacco (Nicotiana tabacum) leaves, and the leaf blades of Hydrilla sp. with Weber-Edsall solution. When ATP (final concentration 4×10^{-4} M) was added, the viscosity of the protein extract decreased rapidly, followed by a gradual increase. The effect is reversible.

The authors express thanks to LOU Ch'eng-hou (1236/2052/1775) for his guidance and to T'ANG P'ei-sung (3282/0160/2646) and TS'AO T'ien-ch'in (2580/1131/2953) for their valuable opinions.

(continuation of Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao, Vol 3, No 4, pp 491-495)

This paper was received for publication on 17 August 1963.

Author's Affiliation: Both of Department of Plant Physiology and Biochemistry, Peking Agricultural University.

YIN Hung-chang (3009/1347/4545)
LI Te-yao (2621/1795/5069)
SHEN Yun-kang (3088/0336/6921)

"Comparative Studies on the Mechanism of Photosynthesis:
I. Photoreduction by Scenedesmus Sp. Under Light of Different Wave Lengths"

Peiping, Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica), Vol 3, No 4, Nov 63, pp 497-500

Excerpts of English Abstract: The relative activities of photoreduction (PR) and of photosynthesis (PS) by Scenedesmus sp. were compared under monochromatic light of 648 mμ and 720 mμ. The results shows that under 648 mμ light, the activities of PR and PS are about the same, while under 720 mμ, the relative activity of PR is much higher than that of PS.

The authors express thanks to TS'AI Chien-p'ing (5591/0494/5493) for participating in the technical work.

This paper was received for publication on 16 August 1963.

Authors' Affiliation: All of Institute of Plant Physiology, Chinese Academy of Sciences, Shanghai.

HUANG Chen-hsiang (7806/4394/4382)

"Studies on the Variation of Peripheral Pathogenicity of Japanese B Encephalitis Virus in White Mice"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 1-7

Excerpts of English Abstract: The present studies on the variation of Japanese B encephalitis virus were carried out in the most susceptible animal. Passage of the virus was carried out by intracerebral and subcutaneous inoculations separately and among those of different age groups. Harvested virus material for passage from either route of inoculated mice was obtained from the brain. Results show that after cerebral passages, the virulence of the virus, which showed no marked change when titrated by the intracerebral route in 3-233k-old mice, decreased as the number of passages increased when titrated by the subcutaneous route.

The author expresses thanks to MA Kuo-liang (7456/0948/5328) for participating in the work.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 1-7)

This paper was received for publication on 2 May 1963.

Author's Affiliation: Department of Virology, Chinese Academy of Medical Sciences, Peiping.

HSU Chao-hsiang (6079/0340/4382)
CHOU Ming-hsien (0719/2494/0341)
CH'EN Li-te (7115/4539/1795)

"Experimental Studies on Active Immunization Against Japanese B Encephalitis: 2. Relation Between the Index of Protection of Immunized Mice to the Route of Challenge"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 9-16

Excerpts of English Abstract: The results of the experiments showed that there was evident difference in resistance when the immunized mice were challenged by different routes of inoculation.

The relationship between the degree of resistance against intracerebral challenge and the level of neutralizing antibodies of the mice vaccinated by two injections was also followed.

Finally, the relation between the index of protection of the immunized mice and the routes of challenge was discussed.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 9-16)

This paper was received for publication on 22 October 1962.

Authors' Affiliation: All of Department of Virology, Chinese Academy of Medical Sciences, Peiping.

SUN Wang-ch'u (1327/2598/2806)
LEI Wen-hsu (7191/2429/4872)
LO Hui-jung (5012/1920/5554)
WU Hui-ying (0702/1920/5391)
LI Ho-min (2621/3109/3046)

"Experimental Viral Parotitis Induced by Coxsackie Virus Group A Type 6 in Rhesus Monkeys"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 17-23

Text of English Abstract: This is the first report of a successful experiment of infecting the salivary gland of rhesus monkeys with coxsackie virus group A type 6 through Stensen's duct. Five of six infected monkeys suffered with an acute nonsuppurative parotitis within 4-8 days after inoculation. Viremia was detected in four monkeys on the second to ninth days. Pathologic changes characterized by focal lymphocytic infiltration in lobules and interstitial tissues of the parotid gland were usually observed in acute stage of illness. Good antibody response was produced in all of the six monkeys. Virus neutralizing antibodies appeared aarly on the fifth day, whereas

(Continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 17-23)

production of complement fixing antibodies usually occurred after 4 to 5 weeks, then reached its maximum on the 8th week. Moreover, a significant increase of complement fixing and hemagglutination inhibition antibodies against the mumps virus, as well as Sendai virus, was also observed in the sera of these monkeys. This interesting finding suggests that some antigenic relationships may exist between the coxsakie virus and myxoviruses.

The authors express thanks to Dr CHU Yin-keng (2612/5593/5087) and Dr SHEN Chu-yang (3088/5468/7122) for their pathological investigations.

This paper was received for publication on 20 September 1962.

Authors' Affiliation: All of Institute of Control of Pharmaceuticals and Biologicals (Yao-p'in Sheng-wu Chih-p'in Chun-ting-so, 5673/0756/3932/3670/0455/0756/2914/1353/2076), Ministry of Health, Peiping.

LIU Yuan-yuan (2692/0337/0337)
LIU Hua-ch'en (2692/5478/2525)

"Studies on Infectious RNA of Japanese B Encephalitis Virus: IV. Change of RNase Activity in Mouse Brains During Virus and RNA Infections"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 24-29

Excerpts of English Abstract: An increase followed by a decrease of RNase activity was demonstrated in mouse brains during infection of the ani mals with Japanese B encephalitis virus or with its infectious RNA.

Basing their study on the analysis of experimental data, the authors suggest that the increase of intracellular RNase activity in the brains might be a primary resistance of the cells against Japanese B encephalitis virus infection, and the decrease of enzyme activity would be interpreted as the result of a pathogenic effect of the virus.

The possibility that the low infectivity titre of the viral RNA might be due to the prompt increase of intracellular RNase activity in the

(continuation of Wei-shen-wu Hsueh-pao, Vol 10, No 1, pp 24-29)

infected tissue was also discussed.

The authors express thanks to WANG Yuan (3076/1254) for participating in the experimental work.

This paper was received for publication on 13 May 1963.

Authors' Affiliation: Both of Department of Virology, Chinese Academy of Medical Sciences, Peiping.

WANG Yung-chi (3769/3938/2813)
KU P'ei-wei (7357/0160/7279)
SUN Mien (1327/0517)
MA Wen-hsin (7456/2429/0207)
CHOU Ning-chen (0719/1380/3791)
SUN Sheng-hao (1327/4141/6275)
LI Mei-jung (2621/5019/1369)

"Japanese B Encephalitis Tissue Culture Vaccine: 1. Cultivation of the Virus and Preparation of the Vaccine"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 31-38

Excerpts of English Abstract: Either chickembryo or mouse brain strains of Japanese B encephalitis virus was successfully propagated and serially passaged in chickembryo cell monolayers; however, no evidence of any increase in the intracerebral infectivity titer in mice (LD_{50}) was obtained. The growth curve pattern of various strains of the virus in chickembryo cells was studied and found to be identical with maximum titer (LD_{50}) ranging from $10^{-5.0}$ to $10^{-6.0}$. Parallel titrations of the

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, Feb 64, pp 31-38)

virus content both in the infected cells and the corresponding maintenance fluids gave comparable LD_{50} titers.

This paper was received for publication on 19 February 1963.

Authors' Affiliation: All of Institute of Biologicals, Ministry of Health, Peiping; MA and SUN Sheng-hao associated with Ch'eng-tu Institute of Biologicals.

HSIAO Chun (5618/0193)
CHANG Shou-te (1728/1343/1795)
CHUANG Chen-hsi (5445/6297/4406)

"Multiplication and Cytopathogenic Effect of Measles Virus in Various Tissue Cultures"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 39-44

Text of English Abstract: The behavior of three strains of measles virus in various primary and continuous tissue culture systems was studied with the following techniques: cytopathic effect (CPE) both by direct microscopy and after hematoxylin-eosin staining; Lemadsorption of rhesus erythrocytes and transfer to susceptible cells after various number of passages in the particular systems. Human embryonic kidney, human amnion, monkey kidney, dog kidney, and HeLa cells were found to support virus multiplication with CPE of recently isolated virus strains passed in human kidney cells only (strain 20 and 34). The laboratory adapted strain, Leningrad 4, on the other hand, showed in addition, well marked CPE and Lemadsorption in a number of cell systems, including chicle

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 39-44)

embryo fibroblast, guinea pig embryo lung, FL, MERN, KB, and Detroit-6. Pig kidney cells were able to support the multiplication of Leningrad 4 without CPE. The practical significance of these findings is discussed.

Authors' Affiliation: All of Ch'ang-ch'un Institute of Biologicals.

HUNG T'ao (3163/3447)
CH'EN Liang-piao (7115/5328/2871)
P'ANG Ch'i-fang (1690/0366/2455)
CHOU Ssu-ching (0719/1835/2417)

"Investigation of Negative Contrast Staining Technique"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 45-52

Excerpts of English Abstract: The negative contrast staining technique was set up under the condition restricted by a microscope of second class which was equipped with a single condenser and larger apertures (50-70 μ) and operated at lower potentials (60 and 80 Kv instead of 100 Kv.). In these experiments, similar results were obtained with different potentials, and it was suggested that the disadvantages produced by higher potentials could be avoided at lower potentials with great care.

The major attention of the authors was also paid to the staining method, on which a series of attempts was made to find out a simple and useful procedure. Eventually, a direct dropping method was assured

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 45-52)

as a simpler and more useful method as compared with the routine spraying method.

Finally, an attempt was made to discuss the principle of the negative staining technique, especially with respect to the interpretation of electron-micrographs achieved with this technique.

The authors express thanks to HSUEH Feng-chu (5641/7685/5282) for providing infectious viruses.

This paper was received for publication on 21 August 1963.

Authors' Affiliation: HUNG, CH'EN, and P'ANG of Department of Virology, Chinese Academy of Medical Sciences, Peiping; CHOU of Institute of Medical Instruments, Chinese Academy of Medical Sciences, Peiping.

CHENG Wu-fei (6774/2976/7378)
KAO Nai-chuang (7559/0036/5445)
TS'AO Ken-heng (2580/2704/3801)
CH'EN Ch'ing-jung (7115/1987/2837)
SUN Te-jung (1327/1795/5554)
WANG I-ching (3769/1952/7234)

"Attempts to Inhibit Immunological Response by Chloroquine"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 53-58

Text of English Abstract: When chloroquine was given 20-40 mg/kg b.i.d. in an 11-day period beginning 2 days before antigen injections, it failed to inhibit hemolysin formation in rabbits. On the contrary, at a higher dosage level (40 mg/kg), it enhanced antibody formation ($p < 0.01$-0.05).

Chloroquine given to mice at 0.2-1 mg b.i.d. for 12 days also failed to suppress antibody formation.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 53-58)

In a parallel experiment, 6-MP showed an inhibitory effect on antibody production in rabbits, but not in mice.

Chloroquine also failed to prevent anaphylaxis in guinea pigs.

The mechanism of the therapeutic effect of chloroquine is discussed in connection with the above results, and further study to approach this problem is pointed out.

This paper was received for publication on 16 July 1963.

Authors' Affiliation: All of Microbiology Teaching and Research Section, Tientsin Medical College and Institute of Epidemiology, Hopeh Provincial Academy of Medical Sciences, Tientsin.

CHEN Chia-nai (7115/0857/0035)
KU Pao-liang (7357/5508/5328)
WU Hung-p'ing (0702/7703/5493)
LI Hsiang-yin (2621/0686/0603)
CHANG Yu-fen (1728/3768/5358)

"An Improved Method for the Preparation of Human Amnion Cells"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 59-63

Text of English Abstract: The purpose of this paper is to report the conditions under which the cultivation of human amnion cells could be successful. It was found that the injury caused by trypsin to the amnion cells which had been deprived of mucoid substance was responsible for the failure of survival of the cells. When the mucoid substance was kept in good condition upon the amnion cells, it protected the cells from the action of the trypsin and promoted a success in the cultivation of these cells.

This paper was received for publication on 3 December 1962.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 59-63)

Authors' Affiliation: All of Microbiology Teaching and Research Section, Hopeh Medical College, Shih-chia-chuang.

YU En-shu (0060/1869/1659)
LIN Chin-jui (2651/6855/3843)
T'IEN Wen-ch'i (3944/2429/3825)

"An Immunological Method for Detecting Coxiella Burneti in Infected Materials"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 64-66

Text of English Abstract: A simple and rapid method for examining the infected materials of Coxiella burneti, based upon the principle of protection, is described. It can be considered to be more sensitive than the other methods for the detection of Q fever infection.

Using this method, the results can be obtained within 12 days, while those by other methods, including complement fixation texts and cultivation, are usually negative in the same period.

This paper was received for publication on 23 April 1963.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 64-66)

Authors' Affiliation: All of Fukien Provincial Institute of Epidemic Diseases, Foochow.

HSIANG Chin-min (0686/6602/2404)
T'UNG Chien-ch'an (4547/0494/1292)

"The In-Vitro Action of Certain Medicinal Herbs on Type 1 Poliomyelitis Virus"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 68-71

Text of English Abstract: By means of the human amnion monolayer cell cultures, the activity of 40 single and 20 compound herb medicines against type 1 poliomyelitis virus was determined. It was found that Ch'ai-hu (2693/5170) and two compound prescriptions consisting of a number of medicinal herbs showed definite inhibition of the virus by the failure of the appearance of cytopathogenic effects in the cell cultures. The action of these compounds in-vivo is being studied.

The authors express thanks to LO Ching (5012/4842) for participating in the work.

This paper was received for publication on 14 February 1963.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, Feb 64, pp 68-71)

Authors' Affiliation: Both of Hupeh Medical College and Wuhan Institute of Microbiology, Chinese Academy of Sciences, Wuhan.

JUAN Chi-sheng (7086/4949/3932)
CHIANG Ning-shou (5592/1380/1108)

"Preliminary Electron Microscope Investigation of Actinomyces Spores"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 72-82

Excerpts of Russian Abstract: Structure of the surface and form of spores of 177 cultures of actinomyces, belonging to 103 species, were studied with the aid of an electron microscope. The structure of the surface of actinomyces spores was divided into three types: smooth, irregular, and prickly. Spore membranes in different strains of the same species have identical characteristics. The authors conclude that the structure of the spore membrane depends on the spore case rather than on the air-borne mycelia. The authors do not agree with T. P. Prsobrazhenskaya and H. D. Tresner that the bluish blue-green air-borne nycelia have prickly protuberances.

The work was completed under the direction of Prof YEN Hsun-ch'u (7051/6676/0443). CH'EN Chia-i (7115/0857/2034) and CH'EN Yen-sheng (7115/1693/3932) participated in the work.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No. 1, Feb 64, pp 72-82)

This paper was received for publication on 15 September 1963

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping; CHIANG also of Institute of Metals, Chinese Academy of Sciences.

SHU Chun (5289/3449)

"Preliminary Studies in the Serological Classification of Pseudomonas Aeruginosa"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), No 10, No 1, Feb 64, pp 84-88

Excerpts of English Abstract: A collection of 65 Ps. aeruginosa strains have been studied for their serological classification. By means of agglutination and cross-absorption tests, using heated suspensions (100° C, 2½ hours) as antigens, it was possible to divide the organisms largely into "O" groups. Nine distinct and 2 intermediate groups have been recognized, and a close correlation between the serological classification and source of the organisms has been well established.

This paper was received for publication on 15 November 1962.

Author's Affiliation: Institute of Biologicals, Ministry of Health, Peiping.

LIANG Yeh-k'ai (2733/2814/2818)
CHOU Sheng-en (0719/5110/1869)
CHANG K'uan-hou (1728/1401/0624)

"Effect of Polymyxin on Radioactive Phosphorous Metabolism in Pseudomonas Aeruginosa"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 89-92

Excerpts of English Abstract: By using the radioactive isotope technique, it has been demonstrated that under the action of polymyxin, a leakage of phosphorous compounds from the cells of Ps. aeruginosa was observed.

It has been found that most of the P^{32} of themedium was incorporated into the RNA fraction of the cells grown, whereas the incorporation of P^{32} into the fractions of acid-soluble phosphorous and phospholipid was next, while the incorporation of P^{32} into the fractions of DNA and phosphoprotein was the least frequent.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 89-92)

This paper, which was read at the 1962 annual conference of the Peiping Municipal Microbiology Society, was received for publication on 4 March 1963.

Authors' Affiliation: All of Microbiology Teaching and Research Section, China Medical University, Peiping.

LIU Wen-fu (0491/2429/1381)
YEN Kuei-hua (7051/2710/5478)
KUANG Ch'i-yin (6782/0796/5593)
T'ANG Chi-hsueh (0781/0370/7185)

"Experimental Infections for Antibacterial Chemotherapeutic Study: II. Staphylococcal Infection in Mice"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 94-100

Excerpts of English Abstract: Mice infected with 100-1000 LD_{50} of Staphylococcus aureus intraperitoneally could be protected by aureomycine. The natural course of inflammation caused by intracutaneous or intramuscular infection was also significantly modified by this antibiotic. These routes of infection are recommended for studying the systemic or local antibacterial efficacies of chemotherapeutic agents.

This paper was received for publication on 20 November 1962.

Authors' Affiliation: All of Department of Pharmacology, Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping.

CHANG Chih-i (1728/1807/0001)
WANG Feng-lien (3769/7685/6647)

"The Bacteriological Identification of 17 Strains of Suspected Atypical Acid-fast Bacilli"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 102-110

Excerpts of English Abstract: In this paper, the results of bacteriological identification of 17 strains suspected to be atypical acid-fast bacilli were reported. The following tests were included: the appearance of the colony morphology, cultural characteristics, neutral red test, niacin test, cord formation, sensitivity to various antituberculous drugs, inoculation to guinea pigs and mice, and skin allergic tests.

The authors express thanks to CH'UNG Ting-hai (1504/6928/3189), CH'EN Kuo-fen (7115/0948/5358), and LI Hsiung (2621/7160) for participating in the experimental work.

(continuation of Wei-sheng-wu Hsueh-pao, Vol 10, No 1, pp 102-110)

This paper was received for publication on 27 December 1962.

Authors' Affiliation: CHANG, Tientsin Second Tuberculosis Institute; WANG, Fu-wai Hospital, Chinese Academy of Medical Sciences, Peiping.

SHU Chun (5289/3449)

"A New Serotype of B. Alkalescences-dispar '2C-2:6 (L)'"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 111-112

Text of English Abstract: There have been 54 strains isolated from clinical dysentery patients identified as B. alkalescens-dispar belonging to the O-2 group. A new K antigen differing from all the known ones was found in this organism and was designated as "6(L)." The strains were thus designated as B. alkalescens-dispar "2C-2:6(L)."

Author's Affiliation: Institute of Biologicals, Ministry of Health, Peiping.

LIU Wen-fu (0491/2429/1381)
HUANG Hsiung (7806/7160)
YEN Kuei-hua (7051/2710/5478)
T'ANG Chi-hsueh (0781/0370/7185)

"Experimental Infections for Antibacterial Chemotherapeutic Study: III. A Method of Producing Infected Wounds on the Skin and Its Application in Testing Chemotherapeutic Agents"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 10, No 1, Feb 64, pp 113-118

Text of English Abstract: A method of producing and maintaining the infected wounds on the skin of rats and rabbits is recorded, and the results of testing some antibacterial agents are noted. Twenty-four hours after infecting the wounds with Staphylococcus aureus or Pseudomonas aerugenosa, a suppurative inflammation developed without exception in all the rabbits and rats. The extents of inflammation and granulation, the bacterial population, and the time of healing were used as the chief criteria for judging therapeutic efficacy. It was found that the courses of infection and bacterial populations were modified by the treatment with aureomycin or terramycin but not

(continuation of Wei½sheng-wu Hsueh-pao, Vol 10, No 1, pp 113-118)

by the other six antibacterial drugs employed.

Authors' Affiliation: All of Department of Pharmacology, Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping.

Earth Sciences

HSU Jung-lan (1776/2837/2936)
CHOU Kuo-ch'eng (0719/0948/2052)

"Charged Particles in the Function Regions of Magnetic Field and a Model Experiment"

Feiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 121-129

Text of English Abstract: The allowed regions of a single charged particle moving in the various field of force is investigated, assuming that the magnetic field has a potential. In the present investigation, two types of assumed magnetic potential are considered: (1) the magnetic potential is axial symmetric; (2) the magnetic potential is a two-dimensional function. The calculations show that the boundary of the allowed regions is similar to the magnetic lines when special conditions are fulfilled, and the allowed regions can be studied from the figure of the magnetic line.

The results of calculations are also compared with the model

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 121-129)
experiment, in which glow regions in the gaseous discharge correspond to the allowed regions and the dark regions correspond to the forbidden regions. The comparison results are: (1) In the terrella experiment, the glow is trapped in the dipole field, when the magnetic movement of the terrella is greater than a critical value. (2) When the dipole field is disturbed by a uniform field which is antiparallel to the dipole field at the equatorial plane or a field originated from a ring current situated outside the trapped region at the equatorial plain,the dipole magnetic lines are stretched and expanded and the glow will also be extended. The variation of the boundary of the glow is similar to the variation of the magnetic lines. (3) In the gaseous discharge experiment around the neutral line in the magnetic field, the boundary of the glow is also similar to the magnetic lines.

Since many phenomena in gaseous discharge is very complicated, it is very difficult to compare the results of calculation with the experiment quantitatively; therefore, we used some simplified hypotheses to calculate the boundary of the lower regions. The results are very similar to the experiment.

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 121-129)

This paper was completed with the able assistance of Prof CHAO Chiu-chang (6392/0046/4545). The authors also express thanks to WANG Ch'ing-hsiang (3769/1987/4382) and CH'IN Kuo-chih (4440/0948/3112) for assisting in conducting experiments.

References: Date span of the seven English references is 1902-1957; the one Chinese reference,dated 1962, was written by HSU of this article and CHAO Chiu-chang.

Authors' Affiliation: Both of the Institute of Geophysics, Chinese Academy of Sciences.

YANG Chien-ch'u (2799/7002/0427)
CH'EN Lieh-t'ing (7115/3525/1656)

"Influence of Solar Corpus on the Duration of Large-Scale Weather Process of Eurasia During the Winter Half-Year"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 131-135

Text of English Abstract: Based on 10 years' (1949-1959) data, the influence of solar activity on the duration of the large-scale weather process over Eurasia is studied. The index of solar activity used is the magnetic index observed at Zose (She-shan Observatory) Shanghai, China. The chief results are as follows: When an intrusion of the solar corpus with the intensity above certain critical value into the upper atmosphere occurs, that is to say, the magnetic index of Zose suddenly increases to a critical value (the disturbed amplitude of magnetic horizontal component > 120 , the duration of meridianal types of weather process of Eurasia is prolonged significantly, and the anti-cyclonic circulation at 500 MB level over the area of Ural and the Atlantic coast of Western Europe is also intensified. The significance of this result is determined by the method of 2 x 2 contingent table and x^2 test.

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 131-135)

References: A total of 14 references are used, including 7 in Chinese, 5 in Russian, and 4 in English, dated 1948-1962.

WENG Wen-po (5040/2429/3134)

"Several Problems Related to Nuclear Properties in Earth Sciences"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 137-146

Translation of Russian Abstract: From one hypothesis on the periodicity of isotopes, this paper presents an experimental deduction on atomic mass by which a single effective number may be derived, larger than that derived by the "Weizsacker" formula. The various elements distributed in nature are spearated into three "parities" : $z \leq 8$, $8 < z < 42$, and $z \geq 42$. The age of the elements of the earth is computed approximately as 5.2×10^9 years. The paper concludes with several hypotheses on radioactive anomalies in petroleum- and gas-bearing deposits.

The author expresses thanks to P'ENG Hu (1756/3822) for checking over the calculations of this paper.

References: The date span of 12 English references is 1935-1961; one French is dated 1954; and one Russian, translated into Chinese, is dated 1960.

TSENG Jung-sheng (2582/5816/3932)
SUNG Tzu-an (1345/1311/1344)

"Phase Velocities of Rayleigh Waves in China"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 148-164

Text of English Abstract: The phase velocity of Rayleigh waves in China was obtained by using the seismograms from 12 stations in China. Two earthquakes from New Britain Islands were chosen. The amplitudes of Rayleigh waves with a period of about 35 seconds are considerably smaller than their following phases with shorter period. This particular feature of seismograms can be traced from most of the stations. It makes the correlation more feasible. Detailed correlations are obtained by analyzing the variation of periods with distances and also the arrival times of each crest of Rayleigh waves in the seismograms. The phase velocities of separate regions as computed from two different earthquakes are in good agreement. The results show that in calculating the phase velocity with the tripartite method, the corrections due to the different oceanic paths cannot be neglected if the angular distances between them are great. Because the parameters of the earth

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 148-164)

crust in China are not well-known, we have to compare these calculated phase velocities of Rayleigh waves in China with the revised phase velocity monograms of Rayleigh waves by Press, based on the materials obtained in Africa. The crust thickness in spearate regions are thus computed, the results being merely tentative. However, unless more geophysical data were available, these data as given by this method still show a rather close correlation with the principal tectonic features in China. In the region of Tibetan Plateau, the phase velocities are very low, and the calculated thickness of the earth crust there is 74 km; whereas in the region of the southeastern coast, the phase velocities are high, and the calculated thickness is only 20 km.

The calculations and charts appearing in this paper were furnished by CHANG Yu-liang (1728/3768/5328).

References: A total of 17 references are used, including 12 in English, three in Russian, one in French, and one in Chinese; date span is 1948-62.

Authors' Affiliation: Both of the Institute of Geophysics, Chinese Academy of Sciences.

T'ENG Chi-wen (3326/0679/2429)

"Dynamic Characteristics and Propagation of High-Frequency Reflected Waves"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 166-176

Excerpts of Russian Abstract: This paper studies the problems of the dynamics and kinematic characteristics of seismic waves in case of faults, based on field data of studies on modified reflected waves in high-frequency modifications. The area of study is located in the south-western party of Astrakhanskaya Oblast, which is tectonically related to the Krpinskiy embankment. The most intense wave on the seismograph is the one reflected on the surface of the Upper Cretaceous (time of occurrence about 0.6 second; depth 500-600 meters). The formation and tracing of these faults occurred during this wave. Analysis is made of the dynamic characteristics (forms of recording, frequency spectra, and amplitudes) and kinematic characteristics of reflected waves $P'_{ref\ (internal)}$, $P'_{ref(external)}$ and diffraction waves $P'_{dif(internal)}$ and $P'_{dif\text{-}external)}$, which occur in faults lying under the cap rock. The author studies the possibility of detecting and tracing faults with

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, Dec 63, pp 166-176)

small amplitudes by the dynamics of waves under actual conditions. The author summarizes his analysis of these data in four points. Comparison is made of the results of field investigations with simulated investigations. The main characteristics of seismic waves in these faults are qualitatively in agreement, both under simulated and under field conditions.

References: A total of 22 references are used, including 15 in Russian, 5 in English, one in French, and one in Chinese. The Chinese reference is dated 1963 and was written by T'ENG of this article. The date span of all other references is 1934-1962.

Author's Affiliation: Institute of Geophysics, Chinese Academy of Sciences.

CHANG Yu-chun (1728/3768/0689)
LI Shou-t'ien (2621/1108/3944)

"Certain Problems on Radioactive Isotopes During the Activation Analysis of Cu^{66}, Al^{28} and Mn^{56} in the Field"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 179-190

Translation of Russian Abstract: Upon analyzing the nuclear-physical characteristics of the major chemical elements which occur in the rock composition of copper deposits, the authors advance a hypothesis for determining the short-life isotope Cu^{66} taken from the long-life isotope Cu^{64} in the field. The feasibility of determining Cu^{66} was proven, as based on measurements of the half-life periods and gamma-spectra of the main axes of the given isotopes, activated by a Po-Be source ($5 \div 12 \cdot 10^6$ neutrons/second) in chemical reaction tests and in the field on a skarn-type copper deposit. Better results were obtained for determining the isotopes of Al^{28} and Mn^{56}, thus anticipating successful application of the activation analysis method on aluminum and manganese deposits. Also proposed is the possibility of introducing

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 179-190)

this method to deposits of rare metals, like vanadium, indium, etc. Improvements are necessary in the standards of the measuring apparatus, the methods for analyzing the results for reliable and uniform interpretations, and safety techniques.

Li Ch'ang-kuo (2621/2490/0948), TING Mei-li (0002/5019/5461), CHAO Jung-kuo (6392/2837/0948), HSIN Yuan-chung (1823/0337/1813), TS'AO Hsiang (2580/4382), KU Chin-po (6328/6855/3134), MI Shu-yuan (4717/1659/0626), and MA Cheng-jung (7456/2110/2837) assisted in conducting experiments.

The authors express thanks also to WU Chen-yuan (0702/2182/6678), LI Yen-wen (2621/1750/2429), CH'EN Hao (7115/3185), HUANG Chu-jen (7806/6999/0088), and CH'EN Chang-kuei (7115/7022/6311) for participating in field tests.

References: Of the 11 references listed, 9 are in Russian and 2 in English, dated 1956-1962.

Authors' Affiliation: Both of Research Institute of Geophysical and Mineral Prospecting (Ti-ch'iu-wu-li-t'an-k'uang-yen-chiu-so, 0966/3808/3670/3810/2232/4349/4282/4496/2076), Ministry of Geology.

LIU Chih-fan (0491/3112/0416)

"On Kinematic and Dynamic Characteristics of the Points of Return for Reflected Waves"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 192-202

Translation of Russian Abstract: This paper is the study of the plotting of points of return for reflected waves in practical work by applying the general theory on wave interference, resulting from the plotting of the points of return of the reflected waves.

CHU Chuan-chen (2612/0278/6966)

"On Theories of Earthquake Centers and Magnitudes"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 203-210

Abstract: The physical phase of the formation of tectonic earthquakes has been the direct concern and the topic of intense research among seismologists. Several theories on the subject of seismic focus and magnitude have been studied and explained. The variation of approach and theories as proposed by such prominent seismologists as K. E. Bullen, R. Yoshiyama, C. Lomnitz, C. Tsuboi, Gutenberg-Richter, H. Benioff, T. Utsu, A. Seki, L. Knopoff, and others have been compared and evaluated. The significance of determining the general magnitude of an earthquake, predicting an earthquake 15 minutes before occurrence, and determining the seismic focus and the distribution of stress and strain from the earthquake center isindicated. Furthermore, the author states: "Besides the need to conduct research on different types of earthquake centers and magnitudes, it is necessary to conduct a study to help us distinguish between local natural earthquakes and man-made explosions."

(continuation of Ti-ch'iu Wu-li Hsueh-pao, Vol 12, No 2, pp 203-210)

The author expresses thanks to Prof FU Cheng-i (0265/2110/5030) for making necessary corrections on this manuscript.

References: Of the 16 references listed, 11 are in English, 4 in Russian, and one in Japanese, dated 1933-1960.

Author's Affiliation: Institute of Geophysics, Chinese Academy of Sciences.

HSIEH Ming-lien (6200/2494/1670)

"Introduction of Differential Equations to Geometric Formulas in Calculating the Induced Coil System for Measuring Wells"

Peiping, Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica), Vol 12, No 2, Dec 63, pp 211-214

Translation of Russian Abstract: The theory of geometric factors for induction logging is the theoretical basis requisite for the designing of coils and the plotting of the interpretation chart. The formula for the differential lateral geometric factor, derived in accordance with the geometric factor theory, is one of the necessary formulas for coil design. This paper sets forth the detailed process and the results of the investigation. The derived formula differs from that of H. G. Doll, published in the Journal of Petroleum Technology, Volume 1, No. 6, 1949.

The author expresses thanks to WANG Shou-k'uei (3769/1103/1145) for assisting in working out the formulas and to Prof WANG Pai-ts'ai (3769/4101/2088) for reviewing the entire manuscript.

References: One English and one Chinese reference are used, dated 1949 and 1957.

KUAN Ping-hsien (4619/4426/6343)

"A Preliminary Study of the Temperature Variations and the Characteristics of the Circulation of the Cold Water Mass of the Yellow Sea"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 255-283

Excerpts of English Abstract: The cold water mass of the Yellow Sea and its circulation is an outstanding feature and constitutes one of the most important problems in the study of theoceanography of the China Sea. In this paper, the seasonal and secular temperature variations and the characteristics of the circulation are analyzed, using the historical hydrographical date of Dairen--C. Shantung Section, 1928--1943.

This paper is report No 246 of the Institute of Oceanography, Chinese Academy of Sciences. This paper was completed under the direction of MAO Han-li (3029/3352/4409) and reviewed by HO Ch'ung-pen (6378/1504/2609).

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, pp 255-283)

The author expresses thanks to SUN Shou-ch'ang (1327/1108/2490) of the Institute of Oceanography, Chinese Academy of Sciences, for his calculations and drawings and to LI Lei (2621/4320), YUAN Yeh-li (5913/2814/4539), and YANG T'ien-hung (2799/1131/7703) for their valuable opinions.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences.

CH'IN Ts'eng-hao (4440/2582/3493)

"On the Ocean Currents As a Three-Dimensional Problem"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 285-297

Text of English Abstract: In this article, Munk's well-known theory of the wind-driven ocean circulation is extended to the three dimensions of space.

An analytical solution for the equations of motion governing the non-accelerated movement of sea water with the assumption of both constant coefficients of lateral and vertical eddy viscosity is given. The current velocities are composed of two parts: e.g., wind-driven and gradient. Ekman's solution concerning the wind-driven current in an ocean of infinite depth can be derived from the author's solution as a special case. With this solution, the horizontal velocity field of ocean currents may be determined in terms of the knowledge of the wind stresses and the pressure (or dynamic height) fields. The vertical component velocity can thus be derived by integrating the equation of continuity. Moreover, a scheme for numerically calculating the current

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, Nov 63, pp 285-297)

velocities with special application to the three-level ocean model is designed. Finally, this article also deals briefly with the problem for numerically predicting the ocean currents.

The author expresses thanks to WANG Pin-hua (3769/1755/5478) and CHING Chen-hua (2529/2182/5478) for reviewing the original draft.

Author's Affiliation: Shantung College of Oceanography.

TS'ENG Ch'eng-k'uei (2582/0701/1145)

"Some Problems Concerning Analytical Studies of Marine Algal Flora"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 298-304

Excerpts of English Abstract: In the study of a marine flora, it is important not only to know its composition, but also to determine its temperature nature and its relationship with the neighboring floras in order to elucidate its origin. At present such studies are difficult because of the confusion in the application of terms and of the lack of an acceptable system of floristic classification according to its origin. Take for instance, the definition of a "subtropical flora" or a "tropical flora," which may differ with different phycologists. It is, therefore, the aim of the present paper to discuss these problems and to make certain suggestions.

This paper is Report No 194 of the Institute of Oceanography, Chinese Academy of Sciences. It was read at the Conference on Marine Plants and Animals sponsored jointly by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, pp 298-304)

Sciences, in Tsingtao, in June 1962, as well as at the Conference on Western Pacific Marine Animals and Grasses, sponsored by the Western Pacific Fishery Research Commission in Leningrad, USSR, in September 1962.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences.

LIU Jui-yu (0491/3843/3768)
HSU Feng-shan (1776/7685/1472)

"Preliminary Studies on the Benthic Fauna of the Yellow Sea and the East China Sea"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 306-319

Excerpts of English Abstract: Owing to the diversity of the oceanographical conditions of the different parts of the China Seas, the benthic faunas of both the Yellow Sea and the East China Sea are quite different in composition and distribution. The fauna of the East China Sea is characterized by the abundance of tropical elements favored by the warm water of the Kuroshio current and its branchlet -- the "Taiwan current," the bottom temperature of which is not less than 14 or 15° C during the cold season. Of the Yellow Sea fauna, the temperate species are distributed mainly in the deeper part occupied by the cold water of a bottom temperature not more than 8-10° or 12° C during the warm season, and the eurythermal warm-water species are found exclusively in the shallow and coastal regions with a bottom temperature ranging from 0° or -1° in the winter up to about 25° C or more in the summer.

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, Nov 63, pp 306-319)

This paper is Report No 203 of the Institute of Oceanography, Chinese Academy of Sciences. It was read at the Conference on Marine Plants and Animals sponsored jointly by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao, in June 1962, as well as at the Conference on Western Pacific Marine Animals and Grasses sponsored by the Western Pacific Fishery Research Commission in Leningrad, USSR, in September 1962.

Authors' Affiliation: Both of Institute of Oceanography, Chinese Academy of Sciences.

KUO Yu-chieh (6753/3768/3381)

"The Nature of Chaetoceros Flora of the Yellow Sea"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 322-330

Excerpts of English Abstract: The Chaetoceros flora of the Yellow Sea is mainly temperate in nature, comprising 38 species, of which 21 are temperate species and 12 are tropical species. The ecological nature of the remaining species is now known. The temperate species may be subdivided into warm-temperate species (15 to 25° C) and cold-temperate species (5 to 15° C). There is considerable variation in the hydrographic conditions of the Yellow Sea. The annual temperature varies from $\lesssim$ 0 to 6° C in winter and 24 to 28° C in summer. With the exception of the southeastern part which is under the influence of the western branch of the Tsushima Current, a great part of the Yellow Sea is away from the influence of warm or cold currents. Due to the difference in the ability of different Chaetoceros species to tolerate changes in temperature and salinity conditions, there is an obvious seasonal succession of species.

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, Nov 63, pp 322-330)

This paper is Report No 205 of the Institute of Oceanography, Chinse Academy of Sciences. It was read at the Conference on Marine Plants and Animals, sponsored jointly by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao, in June 1962, as well as at the Conference on Western Pacific Marine Animals and Grasses, sponsored by the Western Pacific Fishery Research Commission in Leningrad, USSR, in September 1962.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences.

FANG Tsung-hsi (2455/1350/3556)
LI Chia-chun (2621/1367/0193)

"Effects of Inbreeding on Female Gametophytes and Young Sporophytes of Laminaria Japonica Aresch."

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 333-344

Text of English Abstract: Five inbred pedigrees of L. japonica were used to study the effects of inbreeding. These pedigrees were obtained from intense inbreeding for 3 years of self-fertilization. From the results of the experiments, the following preliminary conclusions were made:

1. Some harmful effects of inbreeding were observed -- the female gametophytes of inbred populations, as a whole, had a higher mortality rate (a) during the extrusion of eggs and after fertilization and (b) in higher temperatures than that in the control. On the other hand, from similar methods of inbreeding, we obtained some pedigrees which behaved better than the control.

2. There was some evidence of heterosis because young sporophytes from some crosses among inbred pedigrees endured better higher

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, pp 333-344)

temperatures and grew faster than the inbred populations.

3. The previous and the present studies showed that the natural population under commercial cultivation was a mixed one, with a high degree of heterozygosis. The process of continuous inbreeding and selection through segregation and recombination of different genes and alleles resulted in the genetic differentiation among different pedigrees.

The authors express thanks to WANG Ai-hui (3769/1947/1920) for arranging the data.

This paper is Report No 230 of the Institute of Oceanography, Chinese Academy of Sciences.

Authors' Affiliation: FANG, Shantung College of Oceanography and Institute of Oceanography, Chinese Academy of Sciences; LI, Institute of Oceanography, Chinese Academy of Sciences.

CH'ENG Ch'ing-t'ai (2052/1987/3141)

"The Geographical Distribution and Faunal Characteristics of Flatfishes of China"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 346-351

Excerpts of English Abstract: The present paper deals with the fishes of Order Pleuronectiformes which were collected along the Chinese coastal area of the China sea. They are found to belong to five families: 40 genera and 87 species. Among them, Psettodidae includes one genus, one species; Bothidae, 12 genera, 34 species; Pleuronectidae, 14 genera, 17 species; Soleidae, 8 genera, 12 species; and Cynoglossidae, 5 genera, 23 species.

From the viewpoint of geographical distribution, the flatfish fauna of China, especially that of the South China Sea, is most closely related to that of the Indo-Malayan region. Among the above-mentioned 87 species, 43 species are also found in the Indo-Malayan region, 29 species are distributed along the coast of China and Japan, and only 15 species are endemic to the China coast.

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, pp 346-351)

This paper is Report No 199 of the Institute of Oceanography, Chinese Academy of Sciences. It was read at the Conference on Marine Plants and Animals, sponsored jointly by Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao in June 1962, as well as at the Conference on Western Pacific Marine Animals and Grasses, sponsored by the Western Pacific Fishery Research Commission, in Leningrad, USSR, in September 1962.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences.

WANG Jung (3769/2837)
CH'EN K'uan-chih (7115/1401/2535)

"Description of a New Species of the Genus Pseudeuphausia (Crustacea) -- Pseudeuphausia Sinica, Sp. Nov"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 4, Nov 63, pp 353-355

Excerpts of English Abstract: The species of the Genus Pseudeuphausia of our waters have long been ascribed to one species -- P. latifrons (G. O. Sars) Hansen, which is dominant in the South China Sea, as well as in the eastern part of the East China Sea. After a careful morphological study of the specimens collected from the coastal waters of the East China Sea and Southern Yellow Sea, another distinct species which differs remarkably from P. latifrons in many respects was found.

The authors express thanks to Assistant Professor LIU Jui-yu (0491/3843/3768) for reviewing the paper and to CH'EN Shih-hua (7115/2514/5478) for participating in the work.

(continuation of Hai-yang yu Hu-chao, Vol 5, No 4, pp 353-355)

This paper is Report No 224 of the Institute of Oceanography, Chinese Academy of Sciences.

Authors' Affiliation: WANG, Institute of Oceanography, Chinese Academy of Sciences; CH'EN, Shantung College of Oceanography.

Technical Sciences

CHANG Han-hsin (1728/3211/0207)

"Modern Developments in Recent High-Speed Aerodynamics"

Peiping, Li-hsueh Hsueh-pao (Acta Mechanica Sinica), Vol 6, No 4, Dec 63, pp 249-286

Excerpts of Chinese Abstract: This paper summarizes major developments in high-speed aerodynamics since 1959. It proposes a division of supersonic speeds into two regions: one of moderate temperatures where a theoretical gaseous model is suitable and one of high temperatures which require a mixed theoretical gaseous model having a chemical reaction.

This paper was prepared under the direction of KUO Yung-huai (6753/3057/2037).

This paper was prepared as a comprehensive report to the Fluid Mechanics Conference of the Mechanics Society of China in October 1963.

Author's Affiliation: Tsinghua University.

CH'IN Ling-hsi (6929/0109/1585)
CHUNG Wan-hsieh (6945/5502/0533)

"The Limit Analysis in Solid Mechanics and a Suggested Variational Principle"

Peiping, Li-hsueh Hsueh-pao (Acta Mechanica Sinica), Vol 6, No 4, Dec 63, pp 287-302

Excerpts of English Abstract: The first part of this paper deals with a brief survey and discussion of the limit analysis in solid mechanics and the difficulty of obtaining results sufficiently close to upper and lower bounds when this method is applied to complex problems.

The second part suggests a generalized variational principle which is equivalent mathematically to the whole set of equations which must be satisfied by limit analysis.

CH'IEN Hsueh-sen (6929/1331/2773), WANG Jen (3769/0088), and HU Hai-ch'ang (5170/3189/2490) contributed suggestions to the first draft of this paper.

(continuation of Li-hsueh Hsueh-pao, Vol 6, No 4, pp 287-302)

The first draft of this paper was read at the Conference on Limit Analysis and Plastic Theory of the Mechanics Society of China in August 1963. It was received for publication on 7 October 1963.

Authors' Affiliation: Dairen Engineering College.

YU Shou-wen (0151/1108/2429)
HUANG K'o-chih (7806/0344/2535)

"An Approximate Theory for Elastic Orthotropic Plates With Transverse Shear Deformations"

Peiping, Li-hsueh Hsueh-pao (Acta Mechanica Sinica), Vol 6, No 4, Dec 63, pp 304-320

Excerpts of English Abstract: This paper presents a simplified two-variable approximate theory for elastic orthotropic plates with transverse shear deformations. Assuming that there exists a function for the transverse shear angles, the total potential energy can be expressed in terms of two independent unknown functions, the deflection and the potential.

This paper was received for publication on 15 February 1963.

Authors' Affiliation: Tsinghua University.

HSU Fu (1776/1788)

"The Problem of Instability in a Plasma Column of Limited Conductance Under the Effects of Radial External Forces"

Peiping, Li-hsueh Hsueh-pao (Acta Mechanica Sinica), Vol 6, No 4, Dec 63, pp 321-329

Translation of Chinese Abstract: Beginning with the magneto-fluid mechanics formula, the problem of the instability in a fixed plasma column is discussed. Under the hypothesis that the plasma is non-compressible, the electrical conductance is limited, and the plasma is under the effects of external radial forces, the analogous chromatic dispersion relationships are derived. With reference to the experimental data of Curzon et al., a calculation is carried out to show that magnetic adhesion V_m has very slight effect on the rate of increase in instability ω and can be ignored in calculations. Green and Niblett have proposed a formula which exaggerates the effect of V_m on ω, and results obtained do not agree with the experiment, and so it is incorrect.

(contintuation of Li-hsueh Hsueh-pao, Vol 6, No 4, pp 321-329)

This paper was completed under the direction of KUO Yung-huai (6753/3057/2037).

This paper was received for publication on 17 April 1963.

Author's Affiliation: Institute of Mechanics, Chinese Academy of Sciences.

CH'IEN Hsiao-nan (6929/2556/0589)

"On the Influence of Inclined Flow on the Propulsion of a Twin-Screw Vessel and on Transverse Force of a Ship Propeller in Oblique Flow"

Shanghai, Chung-kuo Tsao-ch'uan (Chinese Shipbuilding), No 1, Jan 64, pp 1-21

Excerpts of English Abstract: Because of the influence of the hull, the stern propeller of a twin-screw vessel is working under the conditions of oblique flow, and the unsteady working conditions of the blade of a propeller is created.

In this paper, a study of the influence of oblique flow on various aspects of the properties of a propeller is described. In addition, it is found that the propeller has been influenced by a transverse force while working in oblique flow. In this paper, these approximate formulas for the calculation of the aforesaid transverse force are suggested and may be applied to compute the magnitude and the direction of transverse force acting on a propeller.

CH'ENG T'ien-chu (4453/1131/2691)

"A Treatise on the Stability of Special Types of Vessels-Criteria of Stability of Bucket Dredgers"

Shanghai, Chung-kuo Tsao-ch'uan (Chinese Shipbuilding), No 1, Jan 64, pp 23-53

Excerpts of English Abstract: This paper gives the methods for criteria of stability of coasting self-propelling bucket dredgers under two conditions: navigation and dredging.

Criteria of stability on navigation consists of the calculations for: (1) stability under hurricane; (2) stability as vessels roll broadside on the waves and under the action of a gale; (3) stability as vessels roll on the oblique sea waves and under the action of a gail. A method for calculation of the statical stability curve under this condition is given.

A criterion for stability on dredging is under the assumption that at dredging operations four kinds of heeling moments are acting simultaneously on the vessel. Simple formulas for the calculation of these heeling moments and a brief discussion about these assumptions are given.

LU Hsin-sen (7120/9515/2773)

"The Flexural Vibrations of Rectangular Orthotropic Plates Taking Into Account the Effect of Shear Deformation and Rotatory Inertia; Its Application to the Vibrations of the Ship's Double Bottom in Engine Room"

Shanghai, Chung-kuo Tsao-ch'uan (Chinese Shipbuilding), No 1, Jan 64, pp 54-66

Excerpts of English Abstract: In this paper, by using the assumptions of average deflection, average rotation, and average shear deformation, the differential equations of the flexural vibrations of the orthotropic plates, taking into account the effect of shear deformation and rotatory inertia, are derived.

The formula for calculating the frequencies of rectangular plates with simply supported edges is obtained. Furthermore, the condition of several concentrated masses on the plates is considered.

(continuation of Chung-kuo Tsao-ch'uan, No 1, Jan 64, pp 54-66)

From the example, we can see that the effect of shear deformation on the frequencies of the double bottom in the engine room is very large. If we neglect the effect of shear deformation, i.e., if the classical theory of flexural vibrations of plates is used, the calculated values of the first frequency of the double bottom in the engine room are about 20% larger than the experimental values. However, by using the method of the present paper, taking into account the shear deformation, these errors can be fundamentally corrected.

LU Hsin-sen (7120/9515/2773)

"The Forced Vibrations of Rectangular Orthotropic Plates Taking Into Account the Effect of Shear Deformation and Rotatory Inertia; Its Application to the Vibrations of the Ship's Double Bottom"

Shanghai, Chung-kuo Tsao-ch'uan (Chinese Shipbuilding), No 1, Jan 64, pp 68-74

Text of English Abstract: On the basis of the author's former paper, in this paper the forced vibrations of rectangular orthotropic plates, taking into account the shear deformation and rotatory inertia, are discussed.

At first, the normal modes of three vibrations are obtained. Next, using the Ye. S. Sopokin assumption about the internal friction and the complex variable method, the forced vibrations of rectangular plates with simply supported edges under various harmonic disturbances are solved. At last,as an example, the result is applied to the vibrations of the ship's double bottom.

FU Chih-fang (0265/1807/2455)

"Investigation of Adopting Flexible Rotors in Marine Steam Turbines"

Shanghai, Chung-kuo Tsao-ch'uan (Chinese Shipbuilding), No 1, Jan 64, pp 75-89

Excerpts of English Abstract: This paper discusses the possibility and reality of adopting flexible rotors in marine steam turbines. Firstly, it deals with the advantages of using flexible rotors in marine steam turbines. To reduce the specific weight of the turbine equipment and improve the maneuverability, it is advisable to consider the adoption of flexible rotors in modern, high-speed steam turbines.

In this paper, it is explained that with high-speed turbines, it is difficult to obtain a really rigid rotor due to the influence of the support rigidity.

This paper also discusses the problem of self-excited vibrations of a supercritical rotor. The paper also lists the region of the integral speeds of flexible rotors.

(continuation of Chung-kuo Tsao-ch'uan, No 1, Jan 64, pp 75-89)

In conclusion, the author expresses his own opinions regarding the adoption of flexible rotors in high-speed marine steam turbines.

"A Comprehension of Several Points in the Experimental Construction of Rural Homes in the Hsing-t'ai and Shih-chia-chuang Regions"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 1-5

Abstract: This article is concerned with the building of rural homes in the Hsing-t'ai and Shih-chia-chuang regions, Hopeh Province, using mesh-reinforced concrete. A total of 53 experimental homes using mesh-reinforced concrete have been built since March 1963 in these regions. The article contains photographs and tables concerning these experimental homes.

Author's Affiliation: The authors of this article are from the Experimental Team on Rural Homes, Peiping Design Academy of Industrial Architecture.

SHANG Chiu-tsan (1424/0036/6363)

"A Discussion on the Problems of the Economical Use of Earth and the Reducing of Building Costs in the Construction of Rural Homes in the Northeast"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 6-8

Abstract: This article is concerned with the different types of structures used for the rural homes in the Northeast. Several types of structures, including a structure utilizing mesh-reinforced concrete, are discussed. A table giving dimensions and costs accompanies the article. Photographs of these homes are also included.

LIU Yin-sheng (0491/1377/3932)

"Type Selection of Reinforced Concrete Structural Components for Rural Homes in Hopeh Province"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 9-12

Abstract: Since 1962, reinforced concrete has been used in place of wood for rural homes in Hopeh Province. This paper relates several problems in the selections of types of reinforced concrete structural parts to be used in the construction of rural homes. Photographs of the parts and the structures are contained in this article. A table giving the costs of different structures is also included.

T'ANG P'u (0781/3877)
TENG Yen (6772/8746)
KUAN Ming-yu (4619/7686/1342)

"Standardization of Housing Design on Hilly sites"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 14-18

Abstract: This article is concerned chiefly with the designing of structures on hilly sites. Photographs of hilly sites and how the sites have been terraced for homes are included. There is a graph showing inclines and percentages.

"Homes of the Tai Tribe on Yunnan Frontier"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 19-23

Abstract: This article is concerned with homes of the Tai ethnic minorities on the Yunnan border area. The dimensions and types of homes in this area are discussed. Photographs showing these homes and their interiors accompany this article.

Authors' Affiliation: Authors of this article are from the Investigation Group for Minority Nationality Architecture, Yunnan Division of Architectural Design (Yun-nan Sheng Chien-chu Kung-ch'eng She-chi Ch'u -- 7189/0589/4164/1696/4639/1562/4453/6080/6060, 5710).

YUAN Ching-shen (5913/6975/6500)
CHU Shan-ch'uan (2612/1472/3123)
JEN Kuo-yun (0117/0948/0336)

"Architecture in North Vietnam"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 11, Nov 63, pp 24-29

Abstract: This article discusses traditional and modern architecture in North Vietnam. Numerous photographs of both traditional and modern architecture accompanies this article. In addition, there are numerous photographs of industrial installations in North Vietnam.

Physics

CH'IEN Ching-jen (6929/2529/0088)

"Relations Between Coupling Coefficients of Wave Guides with Different Surface Impedances and Its Application"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 1-10

Text of English Abstract: In this paper, on the basis of the concept of the impedance perturbation, the principle of invariance of the square of the coupling coefficients proved by Unger is generalized. With this generalization, it becomes simpler to compute the random tolerances with small correclation distance and the discrete tolerances. Unified formulas are derived for computation of various tolerances of wave guides. In addition, relations between relevant pairs of coupling coefficients are obtained.

The added attenuation due to an arbitrary form of uniform irregularity is expressed in terms of the maximum allowed impedance perturbation.

(continuation of Wu-li Hsueh-pao, Vol 20, No 1, pp 1-10)

Numerical examples are also given.

The author expresses thanks to Prof HUANG Hung-chia (7806/1347/0857) for his guidance and to LI Hua (2621/5478) of the China University of Science and Technology for his assistance with mathematical designs.

This paper was received for publication on 24 July 1962 and revised on 30 November 1962.

Author's Affiliation: Chinese Academy of Sciences.

HOU Po-yu (0186/0130/ 1342)

"Three Directional Expansion of Green Functions and δ Function"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 11-17

Text of English Abstract: By using the integral representation of Green Function and δ function, it is very easy to separate the angular and radial variables and obtain an explicit expansion.

WEN Chen-i (2429/2182/5065) borrowed a paper by T'ANG Ao-ch'ing (0781/2407/1987) which helped the author reach certain conclusions.

This paper was received for publication on 13 August 1962 and revised on 18 March 1963.

LU Tan (7120/0960/3508)
YANG Kuo-ch'en (2799/0948/3819)
LO Liao-fu (5012/6697/1788)

"The Mass of Muonic Neutrino"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 19-31

Text of English Abstract: The rest-mass effects of the muon's neutrino are discussed. The influence on the two processes--the radiative decay of π mesons and the muon-electron annihilation--in which these effects are exhibited appreciably is analyzed in detail. It is shown that no conflict with existing experimental data would arise from assuming the muonic neutrino to possess a finite, not too small rest-mass. Observations for a more accurate evalution of the rest-mass of the muonic neutrino are also suggested.

The original draft of this paper was received for publication on 10 September 1962. It was revised on 4 March 1963 and again on 5 May 1963.

Authors' Affiliation: YANG, Tientsin Engineering College; L), Physics Department, Inner Mongolian University.

HO Kuo-chu (0149/0948/2691)

"On the Focusing of Partially Shielded Multielectrode Electron Gun"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 33-39

Text of English Abstract: The problem of focusing high current electron beams in a multielectrode electron gun with a magnetic field has been analyzed theoretically. The cathode of the gun may be partially shielded magnetically. The paraxial-ray equation for describing the electron trajectory in the accelerating region is solved in closed form. The space charge effect has been included.

This paper was received for publication on 19 November 1962 and revised on 5 April 1963.

Author's Affiliation: Nankai University.

SKRIPOV, F. I.
WANG I-ch'iu (3769/5030/6669)

"Investigation of Chemical Shifts in Signals of Nuclear Magnetic Resonance of Fluorine Ions in Crystals and in Solutions"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 41-54

Translation of Russian Abstract: This paper briefly describes a radiofrequency spectrograph for observation of nuclear magnetic resonance signals with average resolution and the method of measuring chemical shifts in solids. A study is made of the chemical shifts δ of the signals NMR of F^{19} for metal fluorides in the first and second groups of the Periodic Table. With the exception of LiF, the volume of δ decreases with the increase in the atomic number of the metal. The results were interpreted, on the basis of the the theory of Yosida and Moriya, on the frequency covalence and the theory by J. Kondo and J. Yamashita on the overlapping of electron shells. The authors computed the integrals of superposition between the neighboring ions for alkaline fluorides and derived, with the aid of the Kondo and Yamashita formula, the magnitudes of the magnetic shielding, which agree, on the whole, with experiment. They

(continuation of Wu-li Hsueh-pao, Vol 20, No 1, pp 41-54)

evaluated the magnitude of the absolute magnetic shielding σ. The concentration dependence of σ on F^{19} was measured in aqueous solutions of NH_4F. drops with the increase in the concentration. Extrapolation of the σ dependence curve on the concentration to a value corresponding to the molarity of the concentration of the solid salt coincides with the direct measured value. Chemical shifts of other alkaline fluorides in aqueous solutions behave analogously. This indicates a similarity in the effect of the reactions between ions on the electron structure in solutions and in crystals. During investigations of the aqueous solutions of acid fluoride salts, the authors determined the values of σ for HF and HF_2, which are, respectively, $(60.0 \pm 0.5) \cdot 10^{-5}$ and $(58.1 \pm 0.3) \cdot 10^{-5}$.

Skripov began the paper in June 1961. Upon his death, WANG completed the work.

The author [WANG] expressed thanks to Prof HSU Kuang-hsien (1776/0342/2009), M. I. Petrashen', M. I. Volodicheva, and V. A. Shcherbakov for participating in the work.

(continuation of Wu-li Hsueh-pao, Vol 20, No 1, pp 41-54)

The paper was received for publication on 11 May 1962.

Authors' Affiliation: Skripov was with Leningrad University. WANG is affiliated with Peking University.

LU Hui-ch'iung (4151/1979/3890)
LIANG Tung-ts'ai (2733/2767/2624)

"The System of Standard Programming for Structural Analysis of Crystals on No 104 Computer: I. Function and Organization of Standard Programming Systems"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 55-61

Translation of Russian Abstract: A standard programming system is set up, designed to solve certain basic problems in the structural analysis of crystals on the universal high-speed electronic computer No 104. It consists of five parts (one part has already been completed; the remaining parts will be completed): (1) programs for computing two-dimensional and three-dimensional functions of electron density and Patterson functions; (2) program for computing structural amplitudes with respect to anisotropic thermal movement in a three-dimensional case; (3) program for improving the precision of structure parameters (coordinates of the atoms, anisotropic temperature factors, and the K-factor) by the method of least squares; (4) programs for converting diffraction intensities of

(continuation of Wu-li Hsueh-pao, Vol 20, No 1, Jan 64, pp 55-61)

$I_{(hkl)}$ to the structure factors $|F_{(hkl)}|^2$ with respect to the PL-factor, the temperature factor, and the K-factor and the program for computing unit structure amplitudes $|F_{(hkl)}|$; and (5) several auxiliary programs

The authors express thanks to FAN Hai-fu (5400/3189/4395), YANG Hua-kuang (2799/5478/0342), TUNG Yun-mei (5516/7291/5019), WANG Fu-liu (3769/1715/3966), HUANG Yu-ch'ien (7806/5148/3383), SHEN Hung-i (3947/3163/0001), CHENG Jen-chieh (6774/0086/2638), CH'ENG Hu (4453/5706), WANG T'ing-chun (3769/1694/0193), CHANG K'o-ming (1728/0344/2494), WU Kan-chang (0702/0051/4545) and CH'IAO Kuo-cheng (0829/0948/2973) for participating in this work.

This paper was received for publication on 19 September 1962 and revised on 19 April 1963.

WANG Chih-chiang (3769/0037/3068)

"The Ruby Optical Laser"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 63-70

Text of English Abstract: In this article, the properties of resonance cavity, operating condition, and radiation output of an optical pumping laser are discussed. Factors affecting the operation and the resultant emission are analyzed in detail. Evaluation standards for resonance cavity and active media are described. Cavity constructions for limiting the resonance to one or several modes are suggested; hence, photon degeneracy or brightness of light flux in unit frequency range may be increased by several orders of magnitude. Experimental results on the Ruby laser obtained in our laboratory are given. The interpretations of angular distribution of light frequency, proposed by the author, can be used to account for some experimental results published by recent investigators.

This paper was received for publication on 5 October 1962 and revised on 21 October 1963.

MA Ying-liang (7456/2019/5328)
KO T'ing-sui (5514/1656.3606)

"Internal Friction Peaks Associated With the Coherency of the Decomposition Products of High-Carbon and Low-Carbon Martensite"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 20, No 1, Jan 64, pp 72-82

Excerpts of English Abstract: Previous studies showed that internal friction peaks appear around 130°C and 150°C in the process of tempering of high-carbon and low-carbon martensite, respectively. These peaks have been assumed to be associated with the coherency existing between the decomposition product and the parent phase. In the present work, systematic studies are made on the appearance and disappearance of the respective internal friction peaks in correlation with the formation and the destruction of the coherent decomposition products of high-carbon and low-carbon martensite.

Results show that these peaks are definitely related with the coherency of the decomposition products.

(continuation of Wu-li Hsueh-pao, Vol 20, No 1, Jan 64, pp 83-90

Consequently, this method presents the possibility of expanding the field for the measurement of inclined tracks.

The work was completed under the direction of WANG Chu-hsiang (3769/4376/5046). HSIAO Chien-hsien (5135/0256/0341), HUANG Te-ch'iang (7806/1795/1730), and LU Sui-ling (7120/4482/5376) participated in the work.

This paper was received for publication on 18 May 1963.

ORGANIZATIONS AND CONFERENCES

1. Aeronautical Society of China Established

The Aeronautical Society of China was established at a congress held in Peiping from 20 to 29 February 1964. The delegates to this congress came from aeronautical research agencies, higher-level aeronautical schools and colleges, the civil aviation general administration, and other units. The congress also elected a board of directors and several special committees. Prof SHEN Yuan (3088/0337), president of the Peking Aeronautical College, was elected chairman of the board of directors, and Prof KUO Yung-huai (6753/3057/2037) and four others were elected vice-chairmen. Prof WANG Chung-k'uei (3769/0193/1145) was elected secretary-general. The congress also held several kinds of scholarly activities, including a report by prominent scientist CH'IEN Hsueh-sen (6929/1331/2773). Vice-chairman FAN Ch'ang-chiang (5400/7022/3068) of the Chinese Scientific and Technological Association presented a report on the state and mission of Chinese science and technology.
(Peiping, Kuang-ming Jih-pao, 3 Mar 64, p 2)

2. New Animal Husbandry and Veterinary Institute in Tibet

The Tibet Institute of Animal Husbandry and Veterinary Medicine (Hsi-tsang Ch'u-mu Shou-i K'o-hsueh Yen-chiu-so, 6007/5661/3964/3668/3757/6829/4430/1331/4281/4496/2067) was recently opened in the interest of promoting further development of Tibet's animal husbandry and of providing guidance for prevention of animal diseases. In addition, the various special districts and hsiens will, for the most part, establish animal husbandry and veterinary medical stations. As early as 1963, one third of all the cattle had received vaccinations.

Prior to the establishment of this institute, Tibet had already established institutes of agriculture and meteorology.
(Peiping, Kuang-ming Jih-pao, 16 Mar 64, p 2)

3. Conference for Standardization Organs

The State Scientific and Technological Commission recently convened the First Conference of the State Central Organs for Standardization in Peiping. The purpose of the conference was to exchange work experiences and to discuss the problems of formulating national standards and developing standardizations for industry and agriculture.

The central organs for standardization are a group of research units designated by the State Scientific and Technological Commission in September 1963 to do research and formulate national standards.

At this meeting, the various central organs exchanged experiences in standardization work. Research units in products research were responsible for standardization work in this and related fields. They made possible further consolidation of production. For the past several years, the Academy for Scientific Research on Building Materials has been engaged in many research projects on important varieties of concrete. They formulated suitable standards and methods of testing, thus making it possible to put these special types of concretes into production earlier than expected. Following its work on standardization, the Institute for General Purpose Machinery has, for several years, been responsible not only for a large number of standardization and serialization research experiments, but also for technical and economic analysis

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projects. Their work has brought research work more closely in line with the state policy on technology and has given research accomplishments a more stable base in the economy.

The following were considered by the conference to be the most important tasks in standardization work at present:

Large-scale work on national standards; work to achieve national rebirth and independence; accelerated formulation of technological standards of progress commensurate with actual conditions in China, including the formulation of basic standards binding on the basic industrial raw materials, fuels, and machine industries and standards for package materials and containers; developmental work on food and clothing standards, such as standards for seeds, cattle-breeding, and seedlings for transplanting; standards for national classification of agricultural products; standardization and serialization of agricultural machinery; and standards for pesticides, chemical fertilizers, and veterinary medicines.

The conference brought out that the state organs for standardization, factories, farms, research and planning units, and higher schools should establish solid relationships based on coordination and accelerate the formulation of a group of standards needed for organizing

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specialized production. It also stressed that research work, work in organizing and harmonizing technology, care in improving technological and economic analysis, and continuous improvement in the quality of fixing standards are essential in the process of formulating national standards. (Peiping, Kuang-ming Jih-pao, 8 Mar 64, p 2)

4. 1963 Academic Conference of the Geophysical Society of China

An academic conference of the Geophysical Society of China was held on 16-21 September 1963 in Peiping. Attending and participating in this conference were some 400 persons, including about 80 geophysists from all over China.

The meeting was opened by WU Heng (2976/5899), deputy director of the National Scientific and Technological Commission, and WENG Wen-po (5040/2429/3134), vice-chairman of the Work Committee of the Geophysical Society of China. Three comprehensive reports were delivered by CHAO Chiu-cheng (6392/0046/4545), WENG Wen-po, and TSENG Jung-sheng (2582/5816/3932) on the following subjects: "On Measuring the Development of Low Charged Particles of the Solar Winds and Magnetic Fields in Outer Space," "Several Problems Concerning Nuclear Disposition in Earth Sciences," and "The Nature of the Subsurface Beneath the Earth Crust."

A total of 119 reports, theses, and other papers were read at this meeting concerning the following subjects: general geophysical surveys, geophysical prospecting for petroleum, solid state geophysics, and physics in space.

The papers and reports mentioned above discuss the over-all picture and the latest development of geophysics in China, especially in the fields of petroleum, metalliferous mining, nonferrous mining, coal mines,

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stratigraphic engineering, etc.

In solid state geophysics, the papers reveal that China has already designed its own seismographic instruments mainly to fulfill its own requirements and conditions. Although the study of physics in space is in its early stage in China, rapid progress has been made. As a result of theoretical, experimental, and morphological analyses of terrestial magnetism, China has initiated research work to study various space phenomena such as solar-earth relationship, ionosphere, cosmic rays, etc.

From the discussion of these papers, the participants realized that to hasten further the advancement of China's geophysical science, ... experimental technology must be improved; new technology must be used to improve observation and survey instruments, and certain basic theories and work must still be strengthened.

Besides the above discussion, 31 members were elected to fill various positions in this society (see attachment for name list). The meeting also brought out many constructive ideas for future activities of this society.

Finally, KU Kung-hsu (7357/0501/0650), chairman of the Work Committee of this society, summed up the meeting by pointing out that,

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as a result of such widespread exchange of technological ideas at this meeting, every branch of geophysics in China would be greatly advanced. (Peiping, Ti-ch'iu Wu-li Hsueh-pao [Acta Geophysica Sinica], Vol 12, No 2, Dec 63, p 215)

5. Schistosomiasis Conference

Following the Eighth National Conference for the Prevention and Control of Schistosomiasis, provinces and municipalities in South China held provincial, special district, and hsien conferences on prevention work in 1964.

The number of cases of schistosomiasis, which was prevalent in many areas of South China in 1963, have already been generally reduced, and some hsiens and municipalities in Kiangsi and Fukien provinces have eliminated or almost eliminated the disease. The Tung-fang Hung Brigade of the T'ien-jen Commune in Chia-hsing Hsien, Chekiang Province, which has been plagued with an epidemic of schistosomiasis for 8 years, organized work to prevent the disease and made great headway. The Ching-hsiang Commune succeeded in eliminating the disease, but because of indifference there was a recurrence. The delegates of the regional conferences suggested a high degree of alertness, overcoming a feeling of self-satisfaction, and not stopping work, so long as the disease exists, on the means to eliminate it.

Leadership organs in many areas have already set up organizations for disseminating propaganda on the disease. Many areas, in their springtime schistosomiasis prevention activity, are building canals to collect fertilizer, constructing water improvements, and setting

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up programs to eliminate snails. Kiangsu, Kiangsi, Hunan, and Fukien provinces had already carried out snail elimination work in rivers infested with them by mid-February. These provinces are now engaged in conscientious re-examination of the program. The Shanghai, Chekiang, and Hunan Public Health departments have transferred medical personnel to the rural areas to help in prevention of the disease. Hunan, Hupeh, Kiangsi, and Anhwei provinces are also carrying out programs for the prevention of schistosomiasis. (Peiping, Jen-min Jih-pao, 23 Mar 64, p 1)

6. Conference on Leptospirosis

Leptospirosis is a type of disease contracted from natural sources of infection; it is transmitted from animals to man; it is more prevalent in summer and fall; and it seriously affects the health of workers and the development of agricultural production and animal husbandry. At a recent scientific conference on leptospirosis, convened in Canton by the Society of Internal Medicine of the Chinese Medical Association, experiences and work on the prevention and treatment, as well as research achievements, of leptospirosis throughout China were exchanged and discussed.

Research work on leptospirosis did not begin until after the liberation. Thorough and extensive investigative research was carried out and various achievements made on the regional distribution of this type of disease, its epidemiological characteristics, animal reservoirs and hosts, characteristics of natural sources of infection, distribution of the various races of leptospira, variations in the pathogens, pathogenesis, pathological, and pathophysiological changes, and effective preventative vaccines and methods of diagnosis. This conference has been covered in some 227 articles.

This year, clinical workers have had a set of relatively complete diagnostic methods and therapeutic experiences at their disposal. The

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conference held the unanimous opinion that leptospirosis, in substance, is a septicemic disease which attacks many organs of the body, but with a change in one organ being clinically significant; that because of the complexity and number of its symptoms and because it is not as easy to diagnose as some other disease, the importance of an early re-evaluation of the diagnosis should be stressed; that the clinical classification of the disease depends on the physiological function or anatomic part affected; that preventative measures against leptospirosis should be periodically re-evaluated; that the elimination of the sources of infection is an essential link; that special attention should be paid to eliminating rats; and that better care should be taken of domestic animals. (Peiping, Kuang-ming Jih-pao, 20 Feb 64, p 2)

7. Motor Vehicle Society Founded

The Motor Vehicle Society of the China Mechanical Engineering Society was founded at a conference held in Ch'ang-ch'un during the latter part of August 1963. Participants discussed China's progress in the designing, manufacturing, utilization, and maintenance of motor vehicles over the past 9 years and resolved to improve the designing, trial-manufacturing, experimentation work, technological training, and other aspects. All together, 147 papers from the mechanical engineering societies of 18 provinces, autonomous regions, and cities were received. (Peiping, Chi-hsieh Kung-yeh [Machine Industry], No 18, 25 Sep 63, p 27) (CONFIDENTIAL)

8. Electrical Engineering Conferences

The China Electrical Engineering Society will hold four specialized scientific and technical conferences in 1964 as follows:

1. Conference on the Protection of Electrical Systems by Means of Relays and Automatic Installations to be held during the fourth quarter in Mukden.
2. Conference on Heat Engineering Instruments and Automation to be held during the third quarter in Shanghai.
3. Conference on Power Transmission Lines and Metal Fittings to be held during the second quarter in Nanking.
4. Conference on Low-Voltage Electric Equipment and Automatic Components and Installation to be held during the third quarter in Shanghai. (Shanghai, Tien-shih-chieh [Electrical World], No 12, Dec 63, p 483) (CONFIDENTIAL)

9. Shanghai Annual Chemical Conference Concluded

The Shanghai Municipal Chemistry and Chemical Engineering Society held its 1963 Annual Conference in October. It was attended by more than 5,400 persons and lasted 16 days. Of the 170 papers submitted, most reflected the achievements of Shanghai scientists, 25 concerned agriculture, and several were of the fields of pharmacology, analytical chemistry, and chemical engineering. Research personnel of the Institute of Materia Medica, Chinese Academy of Sciences, to enlarge the source of edible oil, studied the oil composition of wild crops. HAN Tsu-kang (7281/4436/1660), Pharmaceutical Inspection Office, Shanghai Municipal Health Bureau, proposed a new method to analyze the effective constituents of new drugs to treat schistosomiasis, which made a definite contribution to the production of new drugs. KU Yu-chen (7357/3022/3791), SUN Shih-pao (1327/1597/4101), and other chemical engineers, who did research on ammonium sulfate, submitted a paper on a drying process in fluid chemistry and the utilization of waste gas to produce this kind of chemical fertilizer.

Chemical engineers, scientists, and technologists in Shanghai have made progress in such fields as steriodal chemistry, chemistry of elemental organic compounds, rare element chemistry, and analytical chemistry. In the area of analytical research, many modern analytical

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techniques have been successfully adopted: paramagnetic resonance, nuclear magnetic resonance, oscillopolarography carrier spectrum, and gas chromatography. A paper by HUANG Ming-lung (7806/7686/7893) discussed the question of production applying improved methods to synthesize steroidal compounds.

Before concluding, the conference convened a session to elect a 79-member board of directors including WENG Yuan (3908/6678), TING I (0002/0001), and WANG Tao (3769/6670). (Shanghai, Chieh-fang Jih-pao, 21 Nov 63, p 2) (CONFIDENTIAL)

10. Shanghai Parasitology Annual Conference Convened

At the Shanghai Parasitology Conference this year [1963], 135 papers were submitted, which was more than double that of last year. Seventy-three percent of the papers were on the prevention of schistosomiasis, malaria, filariasis, ancylostomiasis, and kalazor. Prof MAO Shou-pao (3039/1343/4101) of the Institute of Parasitic Diseases, Chinese Academy of Medical Sciences, made a special report entitled "Progress in Research on Immunology Through Schistomiasis Serum in the Past Few Years." The Shanghai Municipal Center Schistomiasis Control Center (Shang-hai Shih Hsueh-hsi-ch'ung Fang-chih So: 0006/3189/1579/5877/0705/5849/7089/3112/2076) submitted a paper, "Investigation and Control of Malignant Malaria in Shanghai in 1963." Assistant Professor HSIEH Shu-chen (6200/3219/6297) of the Shanghai First Medical College submitted a paper, "Some Special Clinical Developments Regarding Tertian Malaria."

Judging by the papers submitted, it is apparent that modern techniques and metods have been adopted in research on parasites. For example, blood fluke cercaria that had been subjected to cobalt 60 gamma rays were used to innoculate animals to study their resistance to further infection. Within the past few years, Chinese scientists have begun to do biochemical research on parasites both at

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home and abroad, on several kinds of blood flukes indigenous to Japan, for example, to develop new drugs. F 30066, a new nonantimonial drug, definitely shortens the period of fever and alleviates symptoms. Achievements have been made in the epidemiology of important kinds of schistomiasis and in research on the ecology of intermediate hosts and victors. Bureau Chief PAI Pei-wu (4101/0371/0063) of the Schistomiasis Control Bureau, Ministry of Health, addressed the conference. (Shanghai, Chieh-fang Jih-pao, 26 Nov 63, p 2) (CONFIDENTIAL)

11. Conference on Antiepileptic Drugs

A conference on antiepileptic drugs was held in September 1963 at the Chinese Medical Association Shanghai Branch headquarters. The meetings, which were chaired by Prof CHANG Yuan-ch'ang (1728/3104/2490), were attended by professors of neurology and physicians from the Shanghai First and Second Medical colleges, as well as by representatives of the pharmaceutical industry and of the Shanghai Municipal Pharmaceutical Society. The conference heard reports on foreign progress on anti-epileptic drugs and on the state of production in China, particularly the production of the following drugs: phenytoin sodiu, Mysolin (primidone), trimethadione, and Melontin. (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, p 240) (CONFIDENTIAL)

MANPOWER AND EDUCATION

1. Research Students Complete Graduate Course

More than 40 of the research students who enrolled in 1959-1960 for graduate study at Tsinghua University recently passed the orals in defense of their theses and were graduated. In the judgment of the Board of Examiners, the dissertations each meets the needs of national socialist construction, as well as those of scientific development in China. The papers were expressive of originality on the part of the authors and proved their capability of pursuing independent scientific research.

The present group of research students were trained by Tsinghua since the university decided to implement thoroughly the party's policy on education. Their various fields of graduate study included 34 specializations, among which are the following: Cast Alloy, Metallography and Metal Materials, Thermodynamics and Heat Transfer, High Tension Engineering, Tractors, Automatic Generation of Electric Power for Heating, Power Networks and Power Systems, and Hydraulic Engineering Structures. Each graduate student conducted his scientific research under the guidance of a member of the university faculty with experience in scientific research.

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Since the number of tractors employed in Chinese agriculture has increased steadily over the past few years, research students specializing in tractors saw a need for improvement in tractor construction and selected as their research topic "The Vibrations and Smoothness of Wheel-Type Tractor Engines." Graduate students of another specialization investigated the subject of nodular cast-iron track guides for caterpillar tractors and made some achievements in their search for substitute materials, as well as in the modification of caterpillar track guides in current usage. They built their model on a trial basis at the Nanking Tractor Repair Plant. Field runs were made at various tractor stations until the caterpillar track guides proved to have met specified requirements Two other dissertations which the experts considered outstanding were: "On the Use of Alternating Magnetizing Current to Regulate or Control Vibration in a Synchronous Electric Machine With Reciprocating Load" and "The Influence of Deep Cracks in the Foundation and Differences in Elasticity on the Stress of a Gravity Dam." (Peiping, Kuang-ming Jih-pao, 16 Feb 64, p 2)

2. Chinese Geology Graduates Receive Degrees in USSR

Eleven Chinese graduate students affiliated with the Department of Geology at Moscow State University were among the 47 graduates who successfully defended their dissertations for the scientific degree of Candidate of Geological-Mineralogical Sciences at the university in 1963. The dissertations were submitted in Russian. Names of the students are listed with the corresponding department and the title and date of dissertation.

1. CHANG Tsao-ming, Department of Mineral Resources: "Elements of Admixtures in Iron Ore Skarn Deposits in Odinochnoye (Eastern Sayan)"; 12 April 1963.

2. CHAO Chieh-san, Department of Soil Studies and Engineering Geology; "Electric Charges on the Surface of Mineral Particles and Their Effect on the Formation of Bonds in Dispersed Soils"; 29 March 1963.

3. CH'IN Ch'ing-huang, Department of Mineral Fuels; "Lithologic-Geochemical Properties of Mesozoic and Lower Paleogene Deposits in the Fergana Depression"; 8 May 1963.

4. CHIN Ti-yuan, Department of Historical and Regional Geology; "Material Composition and Conditions for the Accumulation of Cretaceous Deposits in the Southwestern Part of Mountainous Crimea"; 17 May 1963.

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5. CHUNG Chia-jung, Institute of Geology, Academy of Sciences USSR; "Properties of the Distribution and Forms of the Occurrence of Selenium in Low-Temperature Antimony-Mercury Deposits in Southern Fergana"; 4 April 1963.

6. HO Kuo-ch'i, Department of Historical and Regional Geology; "Stratigraphic and Graptolitic Fauna of Ordovician Deposits in the Northern and Northwestern Parts of Central Kazakhstan"; 12 April 1963.

7. HSU Kuo-ch'ing, Department of Mineral Resources; "Conditions for the Formation of Polymetallic Deposits in Karasuk and Geochemical Methods of Prospecting for Blind Ore Bodies"; 4 April 1963.

8. HSU Tao-i, Department of Paleontology; "Early Paleogene Ostracoda in the Central Part of North Caucasus"; 29 February 1963.

9. SUN Wen-p'eng, Department of Dynamic Geology; "Alpine Faults in the Central Part of the Fergana Range"; 22 May 1963.

10. WU Pi-hao, Department of Geochemistry; "Study on the Geochemistry of Bromine in the Starobinsk Deposits"; 23 May 1963.

11. WU Tsun-hsu, Department of Petrography; "Alkaline Rock in the Oktyabr'skiy Massif in Donetskaya Oblast and Their Correlation With Basic Rock"; 23 May 1963. (Moscow, Vestnik Moskovskogo Universiteta, Seriya 4, Geologiya, No 1, Jan-Feb 64, pp 73-75)

3. Female Science Workers in Peiping

The Peiping Municipal Scientific and Technological Association has the following 12 agricultural societies: crops, agricultural machinery, soils and fertilizers, water conservation, vegetables, park planting, botany, forestry, fruit trees, entomology, phytopathology, and animal husbandry and veterinary medicine. At present, there are approximately 400 women members of these student societies, 10 of whom are on the board of directors and 2 of whom are vice-chairmen of the board of directors of these societies.

Some of the women are research personnel from agricultural scientific research units, some are teachers at advanced agricultural schools, and there are also agricultural technicians from suburban agricultural technological promotion stations, seed stations, animal husbandry and veterinary medicine stations, tractor stations, and state-operated farms and people's communes.

CHANG Shu-chen (1728/2885/2830), a distinguished member of the Peiping, Municipal Crop Society, wheat specialist, and student of Prof TS'AI Hsu (5591/2485) of Peking Agricultural University, along with the professor and several other teachers, selectively bred improved wheat varieties "Nung-ta 183," "Nung-ta 90," "Nung-ta 311" and has already promoted the growing of this breed in the Peiping suburbs. (Peiping, Jen-min Jih-pao, 9 Mar 64, p 2)

4. Researchers in Traditional Agriculture Named

On 29 January 1964, 11 specialists on native agricultural methods, representing progressive agricultural units, producers, and workers in Kwangtung Province, held a meeting under the auspices of the Kwangtung Provincial Academy of Agricultural Sciences to exchange experiences on scientific experimentation. The 11 specialists were named to do special research for this academy.

The following persons, who had been engaged in special research for this academy since 1959, were reappointed: LIN Yen-ch'eng (2651/3508/1004), CH'EN Yu-ch'u (7115/0645/0328), TENG Yen-t'ang (6772/3508/2768), HUNG Ch'un-ying (3163/5028/5391), TENG Ta-chi (6772/6671/1015), WANG Hsiu-ho (3769/4423/0735), and CHOU Han-hua (0719/3352/5478), all of whom are specialists on native methods of selecting and breeding rice. The following were newly appointed special research workers of the Provincial Academy of Agricultural Sciences: LIN Mu-ch'uan (2651/2606/3123), expert on native methods of selecting and breeding rice; CH'EN Wei-sung (7115/4850/2646), expert on native methods of rice culture; P'AN Hsueh-ts'ai (3382/1331/2088), expert on native methods of peanut culture; and YUAN Lin-ta (5913/2651/6671), expert on native methods of jute culture.

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Other participants in the meeting were: CHANG Ta-wei (1728/1129/3555), vice-president of the Kwangtung Provincial Academy of Agricultural Sciences; HUANG Yao-hsiang (7806/5069/4382), specialist in rice breeding; and CHIANG Pao-shao (5592/1405/7300), specialist in jute. (Canton, Nan-fang Jih-pao, 30 Jan 64, p 1)

5. Ministry of Building Commendations

The Northwestern Industrial, Construction, and Design Institute of the Ministry of Building recently commended over 300 technical personnel working on construction projects, and 42 engineers among them received special awards.

CHANG Shao-ang (1728/0508/2491), structural engineer and Communist Party member; CHANG Yen-chun (1728/1750/6874), engineer; and CHENG Hsien-jung (6774/6343/2837), engineer and deputy supervisor, were among those receiving special awards. (Peiping, Kung-jen Jih-pao, 23 Feb 64, p 2)

6. State Council Appointments and Dismissals

At its 141st session on 12 February 1964, the State Council made the following appointments: LIU Su-hsien (0491/1372/6343) as vice-president of Wuhan University; CHAO Chin-sheng (6392/0093/5116) as vice-president of Tientsin University; and WANG Ya-p'o (3769/0068/2613) as vice-president of East China Normal University.

The following dismissal was made: LIU Su-hsien (0491/1372/6343) from his post as vice-president of Wuhan Surveying and Cartography College. (Peiping, Jen-min Jih-pao, 8 Mar 64, p 2)

NEW PUBLICATIONS AND BOOK REVIEWS

1. Initiation of Military Medical Journal Announced

The first issue of Chieh-fang-chun I-hsueh Tsa-chih (Liberation Army Medical Journal), a new bimonthly periodical, is scheduled for publication in May 1964. It is to be a comprehensive medical journal and will carry articles on the research achievements and practical experiences of the Liberation Army in clinical medicine and on problems related to military medicine.

The journal will be published by the Liberation Army Medical Journal Society, Peiping, on the 25th of every other month. Price per copy is 0.60 yuan. (Peiping, Kuang-ming Jih-pao, 9 Mar 64, p 3)

2. Institute Publishes Technical Translations

The Liaoning Institute of Scientific and Technical Information (Liao-ning K'o-hsueh Chi-shu Ch'ing-pao Yen-chiu So; 6697/1380/4430/1331/2111/5890/1906/1032/4282/4496/2076) has advertised for subscriptions to its series of monthly and bimonthly compliations of translations of foreign scientific and technical literature. These translations cover various fields of metallurgy and the iron and steel industry, precision tools, and electrical instruments and equipment. This institute is located at No 2, First Section, San-hao Chieh, Ho-p'ing Ch'u, Mukden. The publications are available through local postal bureaus. (Peiping, Jen-min Jih-pao, 29 Jan 64, p 6)

3. Academy Publication

The Science Press in Peiping announces a new publication, Chung-kuo K'o-hsueh-yuan Wei-liang Yuan-su Yen-chiu Kung-tsuo Hui-i Hui-k'an (Collected Papaers of the Chinese Academy of Sciences on Trace Element Research Work Conferences), edited by LI Ch'ing-k'uei (2621/1987/6652) and TS'UI Ch'eng (1508/3413). (Peiping, Jen-min Jih-pao, 21 Feb 64, p 6)

4. New Textbook on Ophthamology Published

Yen-k'o-hsueh (Ophthamology), by CH'EN Yao-chen (7115/5069/4176) and others, was published in September 1963 by Peoples' Medical Publishers, Peiping, as a trial textbook for medical colleges and universities. The book contains approximately 250,000 Chinese words and 427 illustrations (25 in color). It opens with an introduction and a chapter on the development, embryology, anatomy, and physiology of the organs of vision and another on methods of eye examination. Fourteen other chapters treat the morbid conditions of the eyelids, the lacrymal apparatus, the conjunctiva, sclera, cornea, the vitreous and lens, fundus, orbit, and ocular muscles and also discuss iridocylitis, glaucoma, external injuries, errors in refraction, and blindness. Other contributors to the book are Professors KUO Ping-k'uan (6753/4426/1401), CHANG Hsiao-lou (1728/2556/2869), and NIEH Ch'uan-hsien (5119/0278/6343). The new textbook is priced at 2.10 yuan. (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chin [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, back cover) (CONFIDENTIAL)

5. Medical Publication Announced

Shanghai First Medical College announced that its official journal, Shang-hai Ti-li I-hsueh-yuan Hsueh-pao (Journal of Shanghai First Medical College), is a comprehensive quarterly medical publication, the principal contents of which include basic research papers on clinical practices, health and disease prevention, and pharmacology, as well as research abstracts and reviews on special subjects. (Shanghai, Chieh-fang Jih-pao, 17 Nov 63, p 4) (CONFIDENTIAL)

FOREIGN TRAVELS AND CONTACTS

1. Korean Scientific Delegation in China

KUO Mo-jo (6753/3106/5387), President of the Chinese Academy of Sciences, held a banquet on 22 March 1964 to welcome a North Korean scientific delegation to China headed by Chon Tu-kwang, Vice-president of the Academy of Sciences of the Democratic People's Republic of Korea.

Both men made speeches of a political nature during the course of the banquet and expressed their wishes for successful conclusion of the negotiations on the execution of plans for cooperation between the two academies of science in 1964.

The following Chinese scientists also attended the banquet: CHANG Chin-fu (1728/0513/1133), CHU K'o-chen (4555/0668/2823), P'EI Li-sheng (5952/7787/2932), WU Heng (2976/5899), CH'IN LI-sheng (4440, 0500/3932), WEI Ch'uan-t'ung (7614/0278/4827), YEN Chi-tz'u (0917/3444/1964), and YIN Tsan-hsun (1438/6363/8113).

The Second Secretary of the North Korean Embassy in China, Yi Chae-song, also attended the banquet.

KUO Mo-jo carried on friendly conversations with the members of the delegation before the banquet.

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The delegation, which came to China to negotiate plans for cooperation between the academies of science of Korea and China for 1964, arrived in Peiping by plane on 22 March 1964. (Peiping, Kuang-ming Jih-pao, 23 Mar 64, p 1)

2. Korean Scientific Delegation in Peiping

On 28 March, Premier Chou En-lai received and had a talk with Chon Tu-hwan (0356/2435/3562), vice-president of the Academy of Sciences of the Democratic People's Republic of Korea, and the delegation of Korean scientists led by him. Member of the delegation included Ch'oe Sam-yol (1503/0005/1878), Han Tong-sik (7281/2639/2784), Kim Ch'ang-son (6855/2490/0810), Yi Man-hyok (2621/5502/6378), Kim Kil-hong (6855/0679/3163), Pak Yim-kyun (2613/2651/0971), and Pak Yong-do (2613/3057/6670). The Chinese scientists present at the meeting included CHU K'o-chen (4555/0668/2823), KUO Hung-t'ao (6753/3163/3447), FAN Ch'ang-chiang (5400/7022/3068), TS'AO Ying (2580/3841), LI Ch'iang (2621/1730), TU Jun-sheng (2629/3387/3932), and YANG Lin (2799/3829). Also present was Yi Chae-song (2621/0961/2052), second secretary of the Korean Embassy in China. (Peiping, Jen-min Jih-pao, 29 Mar 64, p 1)

3. Chinese Scientific Delegation to Pakistan

A five-man Chinese scientific delegation headed by MENG Hsien-min (1322/2009/3046) arrived in Karachi by plane on 4 March 1964.

The Chinese delegation was invited by the Pakistani Society for the Promotion of Science to participate in the 16th Annual All-Pakistan Scientific Conference in Lahore, West Pakistan. The delegation was welcomed at the airport by a representative of the Pakistani Ministry of Education. (Peiping, Jen-min Jih-pao, 6 Mar 64, p 3)

HUANG Ch'iang (7806/1730) and CH'EN Kuang-yuan (7115/0342/6678), members of the above delegation, on 9 March 1964, made speeches at a meeting in Karachi attended by many prominent Pakistani construction experts and geologists. They spoke on the developments in construction and geology in post-liberation China. This meeting was convened by the Pakistani Union of Scientific Workers. (Peiping, Kuang-ming Jih-pao, 11 Mar 64, p 4)

4. Rumanian Virologist Visits Peiping.

Nicolae Cajal, virologist and corresponding member of the Rumanian Academy of Sciences, arrived in Peiping by plane on 22 March 1964. His visit to China was planned under the terms of the 1963-1964 segment of the Scientific Cooperation Agreement between the Academies of Sciences of Rumania and China. (Peiping, Jen-min Jih-pao, 24 Mar 64, p 4)

5. Albanian Health Delegation Visits Canton

An Albanian health delegation headed by Minister of Health Ciril Pistoli arrived in Canton by train from Hangchow on 14 January 1964. The delegation was accompanied by the Chinese Minister of Health, LI Te-ch'uan (2621/1795/0356).

The delegation, invited to China on a friendship visit, signed the Sino-Albanian governments health and cooperation agreement while in Peiping.

The following attended welcoming ceremonies at the depot in Canton: CHUNG Ming (6945/2494), Vice-Mayor of Canton; JEN Po-sheng (0117/3124/3932), deputy-secretary of the Kwangtung Provincial People's Congress; HU Lo-fu (5170/3157/1133), Deputy Director of the Kwangtung Provincial Health Department; K'O Lin (2688/7792), President of the Chung-shan Medical College; LI Te-ch'i (2621/1779/1142), Vice-President of the Kwangtung Academy of Medical Sciences; K'ANG Wei (1660/3555), Deputy Director of the Canton Municipal Bureau of Health; CHOU Shou-k'ai (0719/1108/1956), Vice-President of the Chung-shan Medical College; and Prof CH'EN Hsin-t'ao (7115/1800/7118). The Chinese Deputy Minister of Health, TS'UI I-t'ien (1508/5030/3944); HUANG Chia-szu (7806/1367/7475), President of the Chinese Academy of Medical Sciences; and Anastas Balta, representing the Sino-Albanian

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Steamship Corporation, also attended the welcoming ceremonies. (Canton, Yang-ch'eng Wan-pao, 14 Jan 64, p 1)

6. Chinese Scientists at Prague Magnetic Ore Formation Conference

Three Chinese scientists were among the 292 scientists from 24 countries who attended the Prague conference on the problem of magnetic ore formation during 16-21 September 1962. T'U Kuang-chih reported on the age of mother rock to which tungsten ores in South China are related, ranging from 150 million to 180 million years. KU Wen-kuei examined the first zoning on four tungsten deposits in South China. [The work of the third Chinese scientist is not cited in this article.] (Moscow, Akademiya Nauk SSSR, GEologiya Rudnykh Mestorozhdeniy, Vol 6, No 1, Jan-Feb 64, pp 113-122)

7. Chinese Scientists at Soviet Petrographic Conference

Prof LI P'u and assistant WANG Liang-k'uei from Communist China were among 9 foreign scientists who participated, with about 800 geologists from the Soviet Union, at the Third All-Union Petrographic Conference held in Irkutsk from 27 May to 1 June 1963. The conference was co-sponsored by the Siberian Department and by the Department of Geological and Geographic Sciences of the Academy of Sciences, USSR, in conjunction with the State Geological Committee of the USSR and the Main Geological Committee of the RSFSR. Professor LI discussed the petrology of the Nan.k'ou complex of granitoids around Peiping. (Novosibirsk, Akademiya Nauk SSSR, Sibirskoye Otdeleniye, Geologiya i Geofizika, No 12, Dec 63, pp 159-160)

8. Chinese Scientist Reports at Soviet Botanical Meeting

CHOU Mao-fan, graduate student at the Leningrad Institute of Agriculture, presented his report, "Variability of Phytophthora infestans," at the 163d session of the Mycological Section of the All-Union Botanical Society, held on 15 January 1960. (Moscow, Akademiya Nauk SSSR, Botanicheskiy Zhurnal, Vol 49, No 2, Feb 64, pp 311-318)

9. Foreign Scientists Visit Shanghai

Scientists from Brazil, Burma, Ceylon, Cuba, Japan, Korea, Mexico, and Pakistan, who came to China at the invitation of the China Scientific and Technical Association and the Peking Center of the World Federation of Scientific Workers to participate in the founding ceremonies of the Peking Center of the World Federation of Scientific Workers and to attend the preparatory meeting for the 1964 Scientific Symposiu, arrived in Shanghai on 7 October 1963.

These foreign guests were accompanied to Shanghai by CH'EN Po (3088/0514), Director of the Peking Construction Design Institute; TAI Sung-en (2071/2646/1869), secretary-general of the Chinese Academy of Agricultural Sciences; and CHANG Lung-hsiang (1728/7893/5046) of Peking University.

SHU Wen (5289/2429), acting chairman of the Shanghai Municipal Scientific and Technical Association; LU Yu-tao (4151/0060/6670) and SU Pu-ch'ing (5685/2975/7230), vice-chairman of the Shanghai Municipal Scientific and Technical Association; LI Shih-chuang (2621/2514/1641), secretary of the said association; and other interested parties and scientists met the foreign guests at the station and airport. (Shanghai, Chieh-fang Jih-pao, 8 Oct 63, p 2) (CONFIDENTIAL)

10. Bulgarian Crop Geneticists in Shanghai

The crop geneticist, Academician Raina Georgieva, visiting China under the terms of the cooperation agreement between the Academies of Sciences of Bulgaria and China arrived in Shanghai from Nanking, by train, on 5 November 1963.

She was welcomed at the station by WANG Chung-liang (3769/0112/5328), deputy-director of the East China Branch of the Chinese Academy of Sciences, and YIN Hun-chang (3009/1347/4545), deputy-director of the Institute of Plant Physiology of the Chinese Academy of Sciences. (Shanghai, Chieh-fang Jih-pao, 6 Nov 63, p 2) (CONFIDENTIAL)

11. Italian Heart Surgeon in Shanghai

An Italian heart surgeon, Professor Dogliotti, and his secretary, Dr Cerastico, visiting China at the invitation of the Chinese Medical Association, flew from Peiping to Shanghai on 11 October 1963. They were accompanied by TS'UI Chih-i (1508/0037/5030), vice-president of the Shanghai First Medical College.

They were welcomed at the airport by TU Ta-kung (2629/1129/0361), vice-president of the Shanghai Branch of the Chinese Medical Association; and by Prof LAN Hsi-ch'un (5695/6932/4783) of Shanghai Second Medical College. (Shanghai, Chieh-fang Jih-pao, 12 Oct 63, p 2) (CONFIDENTIAL)

12. Swedish Professor Visits Shanghai

Professor Alfand, director of Institute of Plasma Physics of the Stockholm Royal Institute of Technology, and his wife, visiting China at the invitation of the Chinese Academy of Sciences, arrived in Shanghai by air on 30 October 1963.

The following were present at welcoming ceremonies at the airport: WANG Chung-liang (3769/0112/5328), vice-president of the East China Branch of the Chinese Academy of Sciences; and LI Heng (2621/3801), director of the Shanghai Observatory. (Shanghai, Chieh-fang Jih-pao, 5 Oct 63, p 2) (CONFIDENTIAL)

13. Argentine Ophthalmologist in Shanghai

Dr F. Carballo, an Argentinian ophthalmologist visiting China at the invitation of the Chinese Medical Association, arrived in Shanghai from Nanking on 30 October 1963. He was greeted by NIEH Ch'uan-hsien (5119/0278/6343), ophthalmologist and vice-president of the Shanghai Municipal Branch of the Chinese Medical Association, and CH'ANG Chin-chien (7022/6855/1017), deputy-secretary of the Shanghai Municipal Branch of the Chinese Medical Association. (Shanghai, Chieh-fang Jih-pao, 31 Oct 63, p 2) (CONFIDENTIAL)

14. Japanese High Polymer Chemistry Delegation in Shanghai

An eight-member Japanese high polymer chemistry delegation, visiting China at the invitation of KUO Mo-jo (6753/3106/5387), president of the Chinese Academy of Sciences, arrived in Shanghai from Peiping on 21 October 1963, accompanied by SUN Shu-ch'i (1327/2579/2759), deputy-director of the Institute of Applied Chemistry, Chinese Academy of Sciences.

The delegation was welcomed at the airport by WANG Chung-liang (3769/0112/5328), vice-president of the East China Branch of the Chinese Academy of Sciences; CH'ANG Weng-yuan (7022/3908/6678), member of the Board of Directors of the Shanghai Municipal Chemistry and Chemical Engineering Society; HU Yung-ch'ang (5170/3057/2545), secretary-general of East China Branch of the Chinese Academy of Sciences; and HUANG Yao-ts'eng (7806/5069/2582), deputy-director of the Institute of Organic Chemistry of the Chinese Academy of Sciences. (Shanghai, Chieh-fang Jih-pao, 22 Oct 63, p 2)(CONFIDENTIAL)

15. Japanese Professor Leaves Shanghai

Professor of Metallurgy Hara Zenshiro of Tokyo University, who came to China to participate in the founding of the Peking Center of the World Federation of Scientific Workers and in the preparatory meeting for the 1964 Scientific Symposium, after visiting factories, suburban people's communes, and scientific research units in Shanghai, left the city on 10 October 1963.

The following were present at the station to wish the professor farewell: SU Pu-ch'ing (5685/2975/7230), vice-chairman of the Shanghai Municipal Scientific and Technical Association; LI Shih-chuang (2621/2514/1641), secretary of the Shanghai Municipal Scientific and Technical Association; and metallurgist FU Yuan-ch'ing (0625/0337/1987). (Shanghai, Chieh-fang Jih-pao, 11 Oct 63, p 2) (CONFIDENTIAL)

16. Korean Agricultural Delegation in Shanghai

A 20-man Korean agricultural delegation, led by Kim Kye-kyon, President of the Korean Academy of Agriculture Sciences with O Song-muk, Deputy Director of the Agricultural Department of the Central Committee of the Korean Workers' Party, as his deputy, arrived in Shanghai on 30 October 1963, accompanied by Vice-Minister of Agriculture KU Ta-ch'uan (7357/1129/1557) and CHIN Shan-pao (6855/0810/1405), vice-president of the Chinese Academy of Agricultural Sciences.

SUNG Jih-ch'ang (1345/2480/2490), Vice-Mayor of Shanghai, welcomed the delegation at the station. The following were also present at the welcoming ceremonies: HSU Te-chien (1776/1795/1696), vice-chairman of the Agricultural Bureau of the Shanghai People's Committee; CHANG Wei-ch'un (1728/0251/5028), Deputy Director of the Rural Work Department of the Shanghai Municipal Party Committee of the Chinese Communist Party; CHANG Wen-t'ao (1728/2429/7290), President, and TAI Hung (2071/1738), Vice-President, of the Shanghai Agricultural College; WANG Shu-tzu (3769/2885/3320), Deputy Director of the Shanghai Agricultural Office; TSOU Fan-yang (6760/0416/2254), board member of the Sino-Korean Friendship Association; and Acting Korean Consul-General in Shanghai, Ch'oe Pong-ch'ol. (Shanghai, Chieh-fang Jih-pao, 31 Oct 63, p 1) (CONFIDENTIAL)

17. Korean Delegation Leaves Shanghai

A Korean historical and archaeological delegation, headed by Prof Kim Yang-hyong, chairman of the Committee of the Department of Social Sciences of the Korean Academy of Sciences and director of the Institute of History of the Korean Academy of Sciences, which was accompanied on its tour by NIU Chao-hsun (3662/0340/8113), deputy director of the Institute of Archaeology of the Chinese Academy of Sciences, left Shanghai on 25 November 1963.

The following attended farewell ceremonies at the station: MENG Po (1322/3134), capital director of the Shanghai Cultural Office; YAO Nai (1202/5082), president of the Shanghai College of Social Science; CH'EN I-hsing (3088/0110/5887), deputy director of the Institute of History; CH'EN Chih-yu (3088/0037/3842), Deputy Curator of the Shanghai Museum; P'AN [illegible]-p'ing (3382/----/1627); and the Acting Korean Consul-General in Shanghai, Ch'oe Pong-ch'ol.

The Acting Consul-General also attended a party, on 24 November 1963, for the visiting delegation, given by SHIH Hsi-min (4258/6007/3046), Candidate Secretary of the Secretariat of the Shanghai Municipal Party Committee of the Chinese Communist Party.

While in Shanghai, the delegation visited the Shanghai Museum, the Shanghai Library, the Revolutionary Memorial, the Dyeing and Printing

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Plant, the Plastic Products Plant, etc. (Shanghai, Chieh-fang Jih-pao, 26 Nov 63, p 2) (CONFIDENTIAL)

18. Pakistani Medical Delegation in Shanghai

A six-member Pakistani delegation to promote oriental medicine, headed by Dr Hakim Mohammad Said, arrived in Shanghai by train from Nanking, accompanied by LU Chih-chun (7627/0037/0193), director of the Research Institutes of Chinese Traditional Medicine, on 14 November 1963.

The following greeted the delegation at the station: TU Ta-kung (2629/1129/0361), deputy director of the Shanghai Municipal Public Health Bureau; LIU Wen-lu (0491/2429/5467), deputy director of the Office of Chinese Traditional Medicine; HSU Shou-jen (1776/1343/0088), assistant manager of the business office; HSU Te-liang (6079/1795/5328), vice-president of the Shanghai College of Chinese Traditional Medicine; and HUANG Wen-tung (7806/2429/2639), head of its Chinese Traditional Medicine Internal Medicine Teaching and Research Section. (Shanghai, Chieh-fang Jih-pao, 15 Nov 63, p 2) (CONFIDENTIAL)

19. Indonesian Ophthalmologist in Shanghai

An Indonesian ophthalmologist, Dr Sie Boeh Lian, his wife, and daughter arrived in Shanghai for a visit on 17 October 1963.

They were welcomed at the railroad station by WANG Hsi-meng (3769/1585/1322), vice-president of the Shanghai Branch of the Chinese Medical Association and ophthalmologists NIEH Ch'uan-hsien (5119/0278/6343) and KUO Ping-k'uan (6753/4426/1401). (Shanghai, Chieh-fang Jih-pao, 18 Oct 63, p 2) (CONFIDENTIAL)

MISCELLANEOUS

1. Joint Army Civilian Cardiovascular Research Group Formed

To enable medical personnel to quickly master heart surgery, the Nanking Armed Forces Rear Services Medical Corps, the Kiangsu Provincial Health Department, and the Kiangsu Provincial Institute of Medical Sciences jointly established a cardiovascular research group, a joint Army and local medical unit to be stationed in the Nanking area. Several separate groups, with the Nanking Armed Forces General Hospital as their base, have been set up and done exploitation of foreign and domestic medical articles, carried on some 90 animal experiments, and completed theoretical and practical preparations for the clinical use of this material. The thoracic surgery service of the Nanking Armed Forces General Hospital, in conjunction with the local hospital, has already successfully done 12 operations on the internal structure of the heart.

The Deputy Director of the Nanking Armed Forces General Hospital is WU Kung-liang (0702/0361/5238). The Chief of Thoracic Surgery at the Nanking Armed Forces General Hospital is CH'EN Wei-lien (3088/1218/1670). (Peiping, Kuang-ming Jih-pao, 23 Mar 64, p 1)

2. Army Medical Aid to Civilian Population

Medical personnel of the People's Liberation Army have been helping local areas develop medical and immunization facilities.

According to incomplete statistics, in 1963, Army medical personnel handled more than 640,000 out-patient cases, house calls, consultations on difficult cases, and examinations for local civilian patients; more than 9,600 cases of emergency treatment of acute illnesses; and more than 1,500 hospital admittances. These cases were especially prevalent in remote areas, islands, and areas inhabited by national minorities.

People's Liberation Army Hospital No 261 recently received commendation from the Ministry of Health. People's Liberation Army Hospital No 217 in Mukden was highly praised by the Ministry of Light Industry, the All-China Committee of the China Light Industry Trade Unions, and the Rear Services General Headquarters of the Army for saving the lives of three workers.

In 1963, military medical sections trained an additional 1,800 medical personnel for people's communes everywhere, helped localities establish medical organizations, and supplied them with some drugs and equipment. (Canton, Chung-kuo Hsin-wen, 21 Feb 64, p 6)

3. Peoples Liberation Army Hospital No 69 Commended

A report from Kunming, extolling the political attributes and professional excellence of the nursing staff of the People's Liberation Army Hospital No 69, specifically mentions the following personnel: PAN Hsu-chao (3803/4958/2507), head of the gynecology-pediatrics section; Nurse YU Hsiao-ming (0060/2556/2494); Nurse TUNG Ko-fei (5516/7245/7236); Nurse WANG Ying-fang (3769/2503/5364); and Nurse LIU Ch'i-chen (0491/0366/3791). (Peiping, Kuang-ming Jih-pao, 23 Feb 64, p 1)

4. Peiping Medical Circles Review Year's Research Achievements

Over 800 medical papers, reflecting the past year's research results, were recently received by the Chinese Medical Association Peiping Branch on the occasion of its 1963 annual meeting.

As reported, an attenuated measles vaccine which does not require the use of placental globulins was developed by Prof CHU Fu-tang (6175/4395/2768), in collaboration with employees of the [Central] Institute of Biologicals, Ministry of Health. In clinical trials, the new vaccine, which is prepared by passing the L_4 strain of measles virus through aninonic cells 45-60 times and subsequently through embryonated hen's eggs, proved to confer relatively satisfactory immunity without high fever reaction.

Domestic Bitin [2,2-thiobis(4,6-dichlorophenol)], the product of Hsi-nan Pharmaceutical Plant, Chungking, was found to be a specific remedy for lung fluke disease in studies made by Prof CHUNG Hui-lan (6945/1920/3482) and young researchers at the Tropical Disease Research Laboratory of the Sino-Soviet Friendship Hospital.

Many laboratory research projects were coordinated with clinical observations. For example, Dr WANG Yun-chao (3769/0061/6856), of Chih-shui-t'an Hospital, Peiping, conducted radiographic studies on the bone capillaries in rabbits to determine the correlation between

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ossification and capillary formation. The results corroborated clinical observations that adequate blood supply and immobilization of the fractured member are important factors in the healing of bone fractures.

Dr, CHANG Ching-che (1728/6855/0772) and others of the Peking Children's Hospital analyzed 590 cases of acute appendicites and drew up the following conclusions: the cataarhal and early suppurative forms of appendicitis call for conservative treatment, Chinese traditional remedies, and acupuncture-moxibustion, with a resorting to surgery only after the aforementioned have proved ineffective; immediate surgery is indicated in obstructive, purulent-perforated, and gangrenous forms of appendicitis.

Researchers of the Institute of Experimental Medicine of the Chinese Academy of Medical Sciences observed, under the electron microscope, granules with a quincuncial arrangement in the lung tissues of hepatitis patients. Their possible relationship to infectious hepatitis virus is to be studied.

To study the pathogenesis of disease and mechanisms of treatment, experimental renitis was induced in rabbits at Peking Medical College and experimental atherosclerosis in monkeys, at Institute of Experimental Medicine, Chinese Academy of Medical Sciences. (Peiping, Pei-ching Jih-pao, 11 Feb 63, p 2)

5. Success Claimed in Advanced Ear Surgery

Since January 1962, thirty-two patients who had been stone-deaf for decades have had their hearing restored through stapedectomy performed at the People's Liberation Army General Hospital's Department of Otorhinolaryngology. The first Chinese surgeon to perform a stapedectomy was Prof CHIANG Sssu-chang (1203/3123/7022). In 1959, Prof CHIANG first read about experimental stapedectomy with special surgical apparatus in foreign countries. Although the literature did not give details of the operating procedure, Prof CHIANG led two young attending physicians, LI Ch'i (2621/3823) and T'IEN Chung-jui (3944/6945/3843), in research and experimentation and worked out the technique themselves. They also designed and made appropraite surgical instruments. (Canton, Chung-kuo Hsin-wen, 11 Mar 64, p 2)

6. Open-Heart Surgery in Kwangtung Province

Successful open-heart surgery, with the use of hypothermia and low volume extracorporal circulation was recently performed in Kwangtung People's Hospital. The patient's postsurgical heart function was excellent, and recent recovery was speedy.

The patient, TS'ENG Ts'an-lin (2582/3606/2651), a resident of Pao-an Hsien, had been suffering from a cardiac illness for more than 20 years. The patient entered the hospital on 21 January 1964 in critical condition. An egg-sized auricular-septal defect was found in the atrium, and proper circulation was already impeded. The prognosis was death in 3-5 years without treatment. After careful study, the hospital staff decided surgery was indicated.

The decending aorta was disrupted, and blood from the upper half of the body was directed to an artificial heart-lung machine for circulation, followed by open-heart surgery on the patient. Since extracorporal circulation was limited only to blood from the upper half of the body, the method of treatment was more convenient than total extracorporal circulation, less blood plasma was needed, and the circulation time was slower; thus, the danger of the formation of "air bubbles" in the patient's blood was greatly reduced, and the time

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devoted to open-heart surgery could be prolonged. This type of surgery was first performed successfully in China in Peiping in the latter part of 1962. (Canton, Chung-kuo Hsin-wen, 23 Feb 64, p 7)

7. Parasite Research in Kweichow Province

The Parasitology Teaching and Research Section of the Kuei-yang Medical College has been engaged in investigative research on parasite-borne diseases in the mountainous areas inhabited by the national minorities for the past 10 years. It has also helped agricultural production and enlarged its own educational program.

Since 1953, teachers from the Parasitology Teaching and Research Section organized educational programs, and various groups from time to time organized departments of public health services and disease control and carried out investigative and scientific experiments on parasite-borne diseases such as ancylostomiasis, filariasis, taeniasis, and malaria in over 70 villages in 15 hsiens.

Prof CHIN Ta-hsiung (6855/1129/7160), head of this teaching and research section, has written several significant articles on the prevention of parasite-borne diseases, including the following: "Prevalence and Control of Intestinal Taeniasis in Humans in Southwest China" and "Studies on the Epidemiology and Methods of Diagnosing Ancylostomiasis and Filariasis in Kweichow Province."

The Parasitology Teaching and Research Section has trained over 380 senior and intermediate health workers in parasitology in Kweichow Province and in other provinces. (Peiping, Kuang-ming Jih-pao, 10 Mar 64, p 2)

8. Review of Chinese Agricultural Research Achievements

China made much progress in agricultural research during 1963. Early in that year, the state established some new research agencies, appropriated additional funds, and increased manpower for agricultural research activities. Moreover, 29 agricultural colleges which have the facilities for conducting research participated in the research program.

Several thousand agricultural experts and technicians made surveys of rural areas, hill country, prairies, and deserts, setting up experimental stations in those areas. They helped farmers conduct experimental research and introduced to them many tested methods which were the achievements of Chinese agricultural research.

In the past year, there were new achievements in the breeding of improved varieties. As a result, the China Academy of Agriculture Sciences had 146 superior varieties for 22 different crops to recommend to growers. All were bred by Chinese experts and farmers and gave high yields in trial production. Some of them are: an early maturing (110 days) variety of rice, suitable for growing in the cold climate of Manchuria; a wind-resistant variety of rice suitable for growing along the coast; rust-resistant, early maturing, high-yield wheat varieties; and cotton varieties, some suitable for growing in

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mountainous areas and others, in the Yellow River and Yangtse River valleys. Some new varieties of cotton are 9-30 percent better producers and mature 7-10 days earlier than the best ever grown in China. Several new varieties of tobacco showed promise in experimental studies of 10-30 percent increases in yield. One of them is a disease-resistant strain which can be cultivated as far south as Yunnan Province and as far north as Liaoning Province. Some varieties of soybeans and beets that are high in oil and sugar content were also released for growing.

During the past year, soil sientists studied the alkaline soils in the Yellow Rvier, Huai Ho, and Hai Ho river valleys and recommended methods for amelioration. Deep plowing combined with intensified irrigation greatly improved the alkaline soil in northern Honan Province. In Hunan Province, the application of chemical fertilizers combined with the cultivation of green manure crops increased production on many farmlands which used to be swampy.

Agricultural mechanics devised more than 20 new types of farm implements during the past year. Research achievements were also made by agricultural scientists in other areas such as zoology, sericulture, forestry, meteorology, the utilization of water for agriculture, and tropical plants.

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In Kwangtung Province, the results of 17 research projects were recently made public by the Provincial Academy of Agricultural Sciences. Seven of those projects concerned new varieties and ten concerned cultural methods for higher yields and disease control. The academy has released 38 new varieties of plants, including rice, sweet potatoes, jute, cotton, green manure crop, red tobacco, and castor bean. These were either selectively bred by the academy or introduced and tested. Their desirable characteristics include high yield, early maturity, and resistance to reversion.

The academy is supplying farmers with the seeds and teaching them the cultural techniques. (Canton, Chung-kuo Hsin-wen, 24 Feb 64, p 5)

9. Suggestions for the Development of Rust-Resistant Wheat

The No 1, 1964, issue of Chung-kuo Nung-yeh K'o-hsueh (Chinese Agricultural Science) carries an article, "The State of Breeding for Rust Resistance in Wheat and Its Development," by TS'AI Hsu (5591/2485).

After reviewing China's recent achievements in wheat breeding for rust-resistance, the author points out the difficulties encountered in the work, as well as in the release of new wheat varieties. In his opinion, the main problems in breeding for rust-resistance are as follows: The conditions under which the experimental breeding is conducted are not the same as those prevalent in China's wheat-growing areas. The varieties tend to be haploid and sometimes mixed. Some superior varieties do not show the desired characteristics and, therefore, do not find acceptance when released for growing. In the breeding program of the North China area, there is a paucity of rust-resistant varieties which can be used as parents. The parent strains used are limited to those which have already been released for trial production there. Moreover, due to variations in the physiological races of rust, some resistant varieties of wheat have demonstrated loss of resistance.

The author offers the following suggestions for improvement in wheat breeding for rust-resistance:

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a. Better cooperation between the plant breeding and plant pathology programs, with full use made of the results of research on wheat rust.

b. Conduct further research into the heredity patterns of rust resistance and other characteristics.

c. Intensify the introduction of wheat varieties, improve breeding methods, conduct simultaneous development of a greater number of varieties, and selectively breed new resistance varieties which are excellent producers.

d. Intensify regional experiments to confirm quickly the rust-resistance of superior varieties, formulate a definite procedure for the breeding program, and speed up demonstration and release.

e. Provide better protection of the purity of existing rust-resistant strains. (Peiping, Kuang-ming Jih-pao, 16 Feb 64, p 2)

10. Immunization Experiments for Viral Pneumonia of Swine

In October 1961, the Yunnan Provincial Animal Husbandry and Veterinary Research Institute initiated hog virus pneumonia immunization experiments in an attempt to corroborate the results of similar experiments previously reported by the Kiangsu Branch of the Chinese Academy of Agricultural Sciences. The Kiangsu Branch had reported that several peritoneal injections of exalted virus seemed safely to confer a considerable degree of immunity in pigs. However, as reported by the Yunnan Research Institute, shots innoculated by the same route with exalted virus did not contract virus pneumona until subsequently challenged, indicating that no reliable immunity was conferred. The hog pneumonia virus used by the Yunnan researchers had been recovered from the lung tissues of infected swine in Kunming, grown in their laboratory and exalted through animal passage. (Peiping, Chung-kuo Ch'u-mu Shou-i [Chinese Animal Husbandry and Veterinary Medicine], No 3, Mar 63, pp 18-19) (CONFIDENTIAL)

11. Newcastle Disease Controlled With Attenuated Virus Vaccine

Outbreaks of Newcastle disease among fowl, specifically chicks, occurred in some unspecified areas [probably in Fukien Province] in September 1960, as well as in March and September 1962. In each case, an attempt was made to control the zoo-epidemic by inoculating chicks which had no apparent symptoms with attenuated Newcastle virus vaccine. The following conclusions were drawn from those experiences: An outbreak of Newcastle disease calls for the immediate inoculation with attenuated virus vaccine of those chicks which have no apparent symptoms of the disease in order to control the spread of disease. After inoculation, chicks should be separated from the rest of the flock for at least one week to protect them against viral infection before immunity is built up. If they are not isolated, some mature chickens may acquire immunity, but young chicks weighing less than one chin will succumb. With few exceptions, chickens which are neither isolated nor inoculated will develop serious sequelae if they survive the disease. -- Reported by HUANG Shao (7806/0508), Bureau of Animal Husbandry and Aquatic Products, Nan-p'ing Special Office, Fukien Province. (Peiping, Chung-kuo Ch'u-mu Shou-i [Chinese Animal Husbandry and Veterinary Medicine], No 3, Mar 63, p 26) (CONFIDENTIAL)

12. Brucellosis in Yaks, Sheep in Kansu Province

To appraise the value of a modified agglutination test for the diagnosis of Brucellosis, which test was presented by Korol' in Veterinariya, 1953, 193 yaks and 60 sheep from Brucellosis-infected herds in T'ien-chu Hsien, Kansu Province, were subjected to sanitary inspection by that method. The tests are reported by SHEN Cheng-ta (3088/2973/6671), WANG Chi-lu (3769/4480/4389), and CHIANG Hung-pin (5592/7703/6333), all of the Department of Veterinary Medicine, Kansu Agricultural College. (Peiping, Chung-kuo Chu-mu Shou-i [Chinese Animal Husbandry and Veterinary Medicine], No 3, Mar 63, pp 27-28) (CONFIDENTIAL)

13. Organophosphorous Compound Used in Experimental Control of Nose Grubs in Ruminants

A one-percent solution of Dipterex was used as a nasal spray in an experiment involving 20 heads of sheep and goats designed to test the effectiveness of the organophosphorous insecticide against the parasites that infest 70-100 percent of sheep and goats [in Yunnan Province]. The animals were predesignated for slaughter by a "certain" food-processing plant. The study was reported by the Yunnan Provincial Research Institute of Animal Husbandry and Veterinary Medicine. (Peiping, Chung-kuo Chu-mu Shou-i [Chinese Animal Husbandry and Veterinary Medicine], No 4, Apr 63, p 30) (CONFIDENTIAL)

14. Tissue Culture of Newcastle Disease Virus Reported

The replication is reported of the Newcastle disease virus, Totor furens Holmes, in tissue cultures by the following persons who are affiliated with the Experimental Diagnosis Laboratory of the Animal Husbandry and Veterinary Bureau, Hopeh Provincial Department of Agriculture: TSAI Wu (5591/2976), CHUNG Ta-chang (6945/1129/3864), TS'AI Yu-mei (5591/3768/5019), and SUN Ching-shu (1327/2529/3219). As reported, three different virulent strains of the virus were used: the Indian Strain, II Strain, and the Peking Strain. All were obtained from the Veterinary Biological Control Institute of the Ministry of Agriculture. The virus was grown on chick embryo tissue and monolayer Hela cells and in embryonated eggs from which the embryo had been removed leaving the chorion intact. Details of hemagglutination tests which were run to determine virulence are reported. (Peiping, Chung-kuo Shou-i Tsa-chih [Chinese Veterinary Journal], Vol 1, No 6, Dec 63, pp 5-6) (CONFIDENTIAL)

15. Contagious Pleuropneumonia Introduced by Uninspected Cattle

In 1958, contagious pleuropneumonia was introduced into an unspecified hsien [probably in Hupeh Province] by 99 head of cattle which did not undergo quarantine inspection, and the disease quickly spread among cattle herds in the area. According to incomplete statistics for the period 1958-1962, the number of cattle infected with contagious pleuropneumonia in the area reached 1,000 head, with more than 800 dead. Although protective measures have been instituted, the disease, reportedly, has not been completely eradicated, and there are constantly new outbreaks.

To determine the state of the zoo-epidemic, sanitary inspection of cattle in the area [recently] was conducted by means of the complement fixation text. Details are reported by KUAN T'eng (7070/7720), WANG Jun-jung (3769/3389/2837), and CHIA Shun-keng (6328/7311/1619), all of Hupeh Special School of Animal Husbandry and Veterinary Medicine. (Peiping, Chung-kuo Shou-i Tsa-chih [Chinese Veterinary Journal], Vol 1, No. 6, Dec 63, pp 24-25) (CONFIDENTIAL)

16. Organophosphorous Pesticides Used in China Cited

Participating in a clinicopathological discussion of the morbid changes which occur in peripheral nerves in the case of Dipterex poisoning, Dr CH'IN Chih-chiu (4440/5347/0046), of Shanghai First Medical College, reviewed the mechanism of organo-hosphorous poisoning, giving the following Chinese designations for the major organo-phosphorous pesticides currently used in China: "ti-pai-ch'ung" (2420/4102/5849) [Dipterex], "Tui-liu-lin (1417/4288/4340) [Parathion], "nei-hsi-lin" (o355/0705/4340) [literally, systemic phosphorous], "chia-pan-lin"(3946/2142/4340) [literallty, methyl mixed with phosphorus], "ma-la-liu-lin" (7456/2139/4288/4340) [Malathion], "lo-kuo" (2867/2654) [possibly the Chinese approximation for "Rogor," which another Chinese source gives as an alternate name for the organophosphorous insecticide known as "dimethoate"], "san-liu-lin" (ooo5/4288/4340) [Trithion], and "i-liu-lin" (0044/4288/4340) [Ethion]. (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, pp 247-248) (CONFIDENTIAL)

17. Peiping Doctor Restores Severed Hand

The Peiping Hsieh-ho Hospital has duplicated the feat of the Shanghai Sixth People's Hospital in restoring to use a hand which had been seriously wounded by severing of blood vessels, nerves, and muscle. Surgical repairs were performed by the Chief Surgeon at the hospital, TSENG Hsien-chiu (2582/2009/0046), and Assistant Chief Surgeon WANG Kuei-sheng (3769/2710/3932). After more than 2 months of recuperation, the patient was able to write, operate an abacus, and lift a weight of 15 chin. (Shanghai, Chieh-fang Jih-pao, 23 Oct 63, p 2) (CONFIDENTIAL)

18. Shanghai Laboratory Develops Electronic Blood Analyzer

The Chemical Analysis Laboratory of the Shanghai Municipal Sixth People's Hospital has developed an electronic instrument to count blood corpuscles. This instrument will count the number of red corpuscles in a blood sample in a period of 30 seconds. A series of more than 500 experiments has proven that this instrument is more accurate than counting corpuscles with the aid of a microscope and is more efficient as well, since the microscope method generally requires about 6 minutes. This instrument was developed by a young electrical worker at the Kuo-kuang Medical and Chemical Instrument Plant who had an educational level of only 5 years of elementary school and no more than 4 years of experience on the job. (Shanghai, Chieh-fang Jih-pao, 3 Oct 63, p 4) (CONFIDENTIAL)

19. New Penicillin To Be Test-Produced

Using an artificial semisynthesis method, the Shanghai Research Academy of Pharamaceutical Industry has successfully produced a new penicillin (P-12) which can control resistant types of bacteria. The Shanghai Third Pharamaceutical Plant is now preparing to put it into test production. This new type of penicillin can be administered either orally or by injection, and the raw materials for its manufacture can be obtained domestically. It is inexpensive, and the production processes are relatively simple. In the past, China has always adopted direct biological synthesis of antibiotics, with which it is difficult to find new types of medicines rapidly. This new penicillin was made by an artificial semisynthesis method which involves further chemical synthesis following the biological synthesis. (Shanghai, Chieh-fang Jih-pao, 25 Nov 63, p 2) (CONFIDENTIAL)

20. Accomplishments of Shanghai Scientific Research

During 1963, twenty-eight first-grade local research organizations in Shanghai completed some 614 research projects. This research was devoted to industrial technology such as the textile and dyeing industry, support to agriculture, medical sciences, and new technologies which involve use of radioisotopes, transistors, etc. In addition, during the first half of 1963, more than 6 million words of foreign scientific and technical literature was translated into Chinese and published. (Shanghai, Chieh-fang Jih-pao, 20 Oct 63, p 2) (CONFIDENTIAL)

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WANG Ying-wei (3769/2019/0251), contract researcher in the laboratory on the history of natural sciences, Chinese Academy of Sciences, and pioneer astronomer; died on 26 February 1964 at the age of 88. (Peiping, Jen-min Jih-pao, 29 Feb 64, p 6)

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All three coauthors of an article, "Pathogenesis of Primary Epilepsy in Children, With Report of Four Cases." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, pp 189-193) (CONFIDENTIAL)

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T'AN Chien-ch'iu (6223/7002/3808), Neuropsychiatry Teaching and Research Section, Hunan Medical College; author of an article, "Analysis of 89 Cases of Symptomatic Psychosis During Acute Infections." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, pp 228-231) (CONFIDENTIAL)

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T'ANG Chen-sheng (0781/6966/3932)
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CH'EN Kung-pao (7115/0361/4101)
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TS'AO Ch'i-i (2580/0796/2034), author of an article, "Report of A Case of Mental Disturbance Due to Acute Benzene Poisoning." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, p 208) (CONFIDENTIAL)

WANG Shu-hsing (3769/3219/7451), Psychiatry Teaching and Research Section, Peking Medical College; author of an article, "The Clinical Characteristics of Mental Disturbances Induced by ACTH." (Peiping, Chung-hua Shen-ching Ching-shen-k'o, Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, pp 223-225) (CONFIDENTIAL)

YANG Jen-hsun (2799/0086/0534), Lu-shan Sanitorium, Lu-shan, Kiangsi Province; author of an article, "Analysis of the Blood Picture in 150 Cases of Neurasthenia." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, November 1963, p 222) (CONFIDENTIAL)

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Coauthors of an article, "Mental Disturbances After Burns." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neurpsychiatry], Vol 7, No 3, Nov 63, pp 226-227) (CONFIDENTIAL)

YU Jen-ying (0151/0088/2019), author of an article, "Clinical Aspects of Cysticercosis of the Brain." (Peiping, Chung-hua Shen-ching Ching-shen-k'o Tsa-chih [Chinese Journal of Neuropsychiatry], Vol 7, No 3, Nov 63, p 188) (CONFIDENTIAL)

* * *

UNCLASSIFIED
Central Intelligence Agency

Washington, D.C. 20505

7 September 2004

Ms. Roberta Schoen
Deputy Director for Operations
Defense Technical Information Center
7725 John J. Kingman Road
Suite 0944
Ft. Belvoir, VA 22060

Dear Ms. Schoen:

In February of this year, DTIC provided the CIA Declassification Center with a referral list of CIA documents held in the DTIC library. This referral was a follow on to the list of National Intelligence Surveys provided earlier in the year.

We have completed a declassification review of the "Non-NIS" referral list and include the results of that review as Enclosure 1. Of the 220 documents identified in our declassification database, only three are classified. These three are in the Release in Part category and may be released to the public once specified portions of the documents are removed. Sanitization instructions for these documents are included with Enclosure 1.

In addition to the documents addressed in Enclosure 1, 14 other documents were unable to be identified. DTIC then provided the CDC with hard copies of these documents in April 2004 for declassification review. The results of this review are provided as Enclosure 2.

We at CIA greatly appreciate your cooperation in this matter. Should you have any questions concerning this letter and for coordination of any further developments, please contact Donald Black of this office at (703) 613-1415.

Sincerely,

Nancy Dotaro for

Sergio N. Alcivar
Chief, CIA Declassification Center,
Declassification Review and Referral
Branch

Enclosures:

1. Declassification Review of CIA Documents at DTIC (with sanitization instructions for 3 documents)
2. Declassification Status of CIA Documents (hard copy) Referred by DTIC (with review processing sheets for each document)

Processing of OGA-Held CIA Documents

The following CIA documents located at DTIC were reviewed by CIA and declassification guidance has been provided.

OGA Doc ID	Job Num	Box	Fldr	Doc	Doc ID	Document Title	Pub Date	Pages	Decision	Proc Date
AD0343932	78-03117A	213	1	18	5117	Scientific Information Report Chinese Science (34)	10/22/1963	89	Approved For Release	3/29/2004
AD0344702	78-03117A	214	1	21	5149	Scientific Information Report Chinese Science (35)	11/4/1963	133	Approved For Release	3/29/2004
AD0344965	78-03117A	215	1	4	5163	Scientific Information Report Chinese Science (36)	11/7/1963	133	Approved For Release	3/29/2004
AD0345229	78-03117A	215	1	23	5182	Scientific Information Report Chinese Science (37)	11/18/1963	179	Approved For Release	3/29/2004
AD0345750	78-03117A	216	1	20	5209	Scientific Information Report Chinese Science (38)	12/11/1963	174	Approved For Release	3/29/2004
AD0344419	78-03117A	217	1	20	5241	Scientific Information Report Chinese Science (39)	12/27/1963	75	Approved For Release	3/29/2004
AD0346493	78-03117A	218	1	21	5277	Scientific Information Report Chinese Science (40)	1/10/1964	115	Approved For Release	3/29/2004
AD0346725	78-03117A	219	1	27	5320	Scientific Information Report Chinese Science (41)	1/27/1964	78	Approved For Release	3/29/2004
AD0347051	78-03117A	220	1	25	5359	Scientific Information Report Chinese Science (42)	2/6/1964	78	Approved For Release	3/29/2004
AD0347849	78-03117A	221	1	39	5407	Scientific Information Report Chinese Science (43)	3/2/1964	174	Approved For Release	3/29/2004
AD0347929	78-03117A	222	1	25	5438	Scientific Information Report Chinese Science (44)	3/5/1964	104	Approved For Release	3/29/2004
AD0348352	78-03117A	223	1	20	5479	Scientific Information Report Chinese Science (45)	3/20/1964	117	Approved For Release	3/29/2004
AD0349491	78-03117A	225	1	18	5560	Scientific Information Report Chinese Science (46)	4/24/1964	118	Approved For Release	3/29/2004
AD0349657	78-03117A	225	1	34	5581	Scientific Information Report Chinese Science (47)	5/4/1964	98	Approved For Release	3/29/2004
AD0332751	78-03117A	183	1	29	3940	Scientific Information Report Electronics And Engineering (22)	10/19/1962	68	Approved For Release	3/29/2004
AD0333146	78-03117A	186	1	20	4041	Scientific Information Report Electronics And Engineering (23)	11/23/1962	73	Approved For Release	3/29/2004
AD0334103	78-03117A	188	1	37	4136	Scientific Information Report Electronics And Engineering (24)	12/20/1962	62	Approved For Release	3/29/2004
AD0334236	78-03117A	190	1	40	4217	Scientific Information Report Electronics And Engineering (25)	1/22/1963	48	Approved For Release	3/29/2004
AD0334769	78-03117A	193	1	39	4339	Scientific Information Report Electronics And Engineering (26)	2/28/1963	68	Approved For Release	3/29/2004
AD0335480	78-03117A	196	1	17	4436	Scientific Information Report Electronics And Engineering (27)	3/21/1963	95	Approved For Release	3/29/2004
AD0336306	78-03117A	199	1	2	4538	Scientific Information Report Electronics And Engineering (28)	4/25/1963	69	Approved For Release	3/29/2004
AD0332433	78-03117A	183	1	35	3946	Scientific Information Report Organization And Administration Of Soviet Science (5)	10/22/1962	60	Approved For Release	3/29/2004